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**SUB-SLAB DEPRESSURIZATION SYSTEM,  
OPERATION, MAINTENANCE, & MONITORING  
(OM&M) PLAN**

**2215 EAST RIVER ROAD**

Prepared for: 2215 East River Road Property Owner

**Conestoga-Rovers & Associates**

14496 Sheldon Road, Suite 200  
Plymouth, Michigan 48170

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## Section 1.0 Introduction

On behalf of the Respondents to the Administrative Settlement Agreement and Order on Consent for Removal Action (ASAOC) with United States Environmental Protection Agency (USEPA), Docket No. V-W-13-C010 (Respondents) dated April 5, 2013, effective date April 8, 2013, Conestoga-Rovers & Associates (CRA) has prepared this Operation, Maintenance, and Monitoring (OM&M) Plan for the Sub-Slab Depressurization System (SSDS) installed at Globe Equipment (Globe) located at 2215 East River Road in Moraine, Ohio. The SSDS was installed in Globe in June and July 2013 at the request of the USEPA following a review of volatile organic compound (VOC) analytical data from the January, March and August 2012 vapor intrusion (VI) investigation activities at, and adjacent to, the South Dayton Dump and Landfill Site in Moraine, Ohio (Site). The design and installation of the SSDS was successfully completed consistent with the USEPA-approved VI Mitigation Work Plan (VIMWP) dated May 2013 with the minor modifications discussed herein. This OM&M Plan presents information regarding the SSDS system design, installation, layout, maintenance, monitoring, inspections, and sampling requirements necessary to ensure normal and proper operation of the SSDS.

## Section 2.0 Site Background and Previous Vapor Investigations

The Site is located at 1901 through 2153 Dryden Road (sometimes called Springboro Pike) and 2225 East River Road in Moraine, Ohio. The Site is bounded to the north and west by the Miami Conservancy District floodway (part of which is included in the definition of the Site), the Great Miami River Recreational Trail and the Great Miami River (GMR) beyond. The Site is bounded to the east by Dryden Road with light industrial facilities beyond, to the southeast by residential and commercial properties along East River Road with a residential trailer park beyond, and to the south by undeveloped land with industrial facilities beyond.

The approximately 80-acre Site is a former disposal site and includes areas where municipal, industrial, and residual wastes and construction and demolition debris were disposed. The Globe facility is located immediately to the south and east of the Site.

CRA completed the 2012 VI Investigation as an interim response action pursuant to Paragraph 37(c) of the ASAOC for Remedial Investigation/Feasibility Study (RI/FS) of the Site, Docket No. V-W-06-C-852 (ASAOC). The VI Investigation was required under Paragraph 4 of the December 10, 2010 Dispute Resolution Agreement signed by the Respondents and the USEPA. A copy of the January 2011 Globe Site Access Agreement is included as Appendix A.

CRA collected 22 soil vapor samples from six permanently installed sub-slab soil vapor probes and 12 indoor air samples at Globe in January, March and August 2012. Trichloroethylene (TCE) was observed to be present in the sub-slab at a concentration as high as 48 parts per billion by volume (ppbv), which is

greater than the Ohio Department of Health (ODH) sub-slab TCE screening level of 20 ppbv. In addition, TCE was observed in the indoor air at a concentration as high as 0.37 ppbv, which is less than the Agency for Toxic Substances and Disease Registry (ATSDR) and ODH indoor air TCE screening level of 2 ppbv. Historic sampling data is provided in Table 1 and Table 2.

### Section 3.0 SSDS Objectives and Targets

The primary objective of the SSDS design and installation was to establish a negative pressure field extension beneath Globe that would effectively minimize the potential for VI of VOCs from sub-slab soils into indoor air. It is noted that to the extent that indoor air background sources of VOCs may be present in Globe or in the ambient air unrelated to VI, the SSDS was not designed to address these background indoor air sources.

Installation of the SSDS was conducted in general accordance with the following guidance documents:

- ASTM guidance *Standard Practice for Installing Radon Mitigation Systems in Existing Low-Rise Residential Buildings* (ASTM E2121-03)
- U.S. EPA guidance *Radon Reduction Techniques for Existing Detached Houses: Technical Guidance for Active Soil Depressurization Systems*, 1993
- U.S. EPA guidance *Indoor Air Vapor Intrusion Mitigation Approaches*, 2008

The generally accepted target range for depressurization is 4 to 10 pascals or 0.0161 to 0.04 inches of water column (in.wc) (U.S. EPA 2008) with a nominal continuous operating range of depressurization from 0.025 to 0.035 in.wc for standard permeability subslab material. However, differential pressures as low as 0.001 in.wc are sufficient to effectively depressurize a subslab (U.S. EPA 1993). If the digital manometer shows a vacuum reading of negative 0.004 in.wc below the slab, then that indicates that the active system is successfully depressurizing the sub-slab area across the footprint of the building. Alternatively, successful operation of the SSDS can be demonstrated if sub-slab sampling indicates that sub-slab concentrations of the contaminants of concern have been effectively reduced by the SSDS to levels that are less than the ODH sub-slab screening levels.

### Section 4.0 SSDS Description

The Respondents retained the Environmental Doctor, an Ohio Department of Health licensed radon contractor to install the SSDS. Environmental Doctor installed the SSDS at Globe between June 20 and July 23, 2013. In the original design, nine systems were to be installed. The system in the office was not installed based on feedback from the building owner. A stem line was added to systems EP-2 and EP-8

to improve vacuum. Drawing 1 provides the layout and as-built diagram of the SSDS, including the suction, vacuum monitoring, and compliance points utilized during SSDS installation and start-up. A copy of the May 2013 Globe Vapor Abatement System Acceptance Form is included as Appendix B. Photographs of the SSDS during and after installation are provided in Appendix C.

#### **4.1 Suction Points**

The ten suction points were installed using 3-inch diameter Schedule 40 polyvinyl chloride (PVC) piping. Each suction point location was installed by coring a 4-inch diameter hole through the floor and concrete slab. The native sub-slab soil was excavated to create a void approximately 6-inches deep below the concrete slab. The suction point piping was then sealed to the floor using waterproof silicone caulk. Each suction point extended vertically from the floor through the exterior wall to a 3-inch diameter PVC piping manifold. The PVC piping manifolds were sloped to each of the suction points such that any potential water condensate that accumulates during the SSDS operation would drain back beneath the sub-slab.

#### **4.2 Vacuum Monitoring Points**

During the installation of the SSDS, nine vacuum monitoring points (SS-24-G through SS-24-O) were installed to collect vacuum measurements from the sub-slab during the SSDS startup. CRA measured the vacuum at the six sub-slab sampling probes (SS-24-A through SS-24-F) and the nine vacuum monitoring points (SS-24-G through SS-24-O) on August 21, 2013 to evaluate the vacuum under the sub-slab. The USEPA approved a hybrid proficiency sampling plan that included sub-slab soil gas sampling from one sub-slab sampling probe in addition to the indoor samples. The probe location, SS-24-B, was selected since it is the only sub-slab probe with an exceedance of TCE historically.

During the OM&M activities at Globe, vacuum measurements will be collected (as described in Section 5) from the nine monitoring points and the six sub-slab sampling probes. If the vacuum does not exceed negative 0.004 in.wc at each location, the hybrid proficiency sampling plan will be implemented for the annual compliance sampling. If the vacuum at all of the compliance vacuum monitoring points exceeds 0.004 in.wc, then only indoor air sampling will be required. More details about the appropriate ranges are identified in Section 3.0 above.

#### **4.3 Blowers and Exhaust Stacks**

The high-suction fans, identified as EP-1 through EP-8, are RadonAway GP501 high-suction/low-flow exhaust blowers, which are connected to each of the eight PVC piping manifolds to provide vacuum to individual vapor suction points. Each exhaust blower was mounted externally, approximately 4 to 9 feet above adjacent street level. The PVC piping manifold penetration points through the exterior wall of Globe were sealed on the inside of the building. Exhaust stacks are connected to each blower near roof

level and are constructed of 4-inch diameter PVC piping that extends approximately 2 feet above the roof line. Details regarding the RadonAway fans are provided in Appendix D.

During the OM&M activities at Globe, vacuum measurements will be collected from each fan. Vacuum should range from 0.5 to 4 in.wc.

#### **4.4 Effluent Sample Ports**

In order to monitor vacuum readings and conduct effluent air sampling, sample ports were installed in the PVC piping manifold upstream of each blower as well as on the discharge side of the blower. The sample ports consist of a sealed barbed fitting installed in the PVC piping.

#### **4.5 Electrical System Operation**

Prior to installation, the electrical system design plans were submitted to the City of Moraine's Building and Zoning office for review, approval, and the issuance of the appropriate permits and licenses. Consistent with the requirements of the permit from the City of Moraine, each component of the electrical system is inspected and approved. The final inspection report is provided in Appendix D. The electrical system is interconnected to Globe's main electrical panel such that if Globe loses power, the SSDS also will lose power and will require the owner/operator to re-activate the system using the manual restart switch.

In accordance with the applicable local and national electric code, the SSDS was installed by branching the main electrical service in Globe to a sub-panel next to each blower exhaust fan. The sub-panel and electrical components are appropriately secured to the exterior wall. In the event that maintenance or inspection checks require the shutdown of the system, the sub-panel electrical system for the SSDS has a primary disconnect switch to disconnect all of the electrical power supply to the SSDS sub-panel. Each inline blower exhaust fan is electrically connected to an individually secured single circuit breaker switch. To deactivate a single blower exhaust fan, the circuit breaker box is opened and the switch is turned to off, which disconnects the power to the blower fan. Pictures of the electrical system are provided in Appendix C.

### **Section 5.0 SSDS Operation, Maintenance, and Monitoring**

In February 2014, CRA will complete the required 180-day proficiency sampling and OM&M inspection of the SSDS to verify that the system is operating as designed. Upon completion of the February 2014 OM&M event, CRA will continue to perform routine inspections on an annual basis to ensure the SSDS is operating properly, beginning August 2014. In August 2014, CRA will also complete the required 365-day proficiency sampling. A summary of the post mitigation radius of influence and the summary of the 30-day proficiency sampling can be found in Table 3 and Table 4, respectively

Routine inspections of the SSDS to be completed by CRA staff will include:

- Inspect the blower, including checks for unusual noise or vibration
- Collect vacuum measurements from the blower to ensure the system is operating in the design range
- Visually inspect the system piping and components for damage
- Inspect the floor and wall seals, and seals around system piping penetrations, including checks for any additional areas requiring sealing
- Document any structural issues, upgrades, or changes to the Globe building
- Document the weather conditions on the day of the SSDS inspection
- Document the indoor air temperature and heating, ventilation, and air conditioning system (HVAC) settings at the time the system is inspected
- Confirm padlock is attached to the on/off switch
- Interview the owner or other appropriate personnel at Globe regarding any system operational issues
- Confirm that a copy of O&M Manual is in the building and update as necessary

Once annually, routine system monitoring will include collection of the following to ensure the readings fall within the design parameters:

- Vacuum measurements from the nine monitoring points (SS-24-G through SS-24-O)
- Vacuum measurements from the six sub-slab sampling points (SS-24-A through SS-24-F)
- Vacuum measurements from the eight fans (EP-1 through EP-8)

Prior to completing any significant modifications to the building structure or HVAC, it is important that a representative of Globe consult a qualified contractor regarding the potential need to modify or upgrade the SSDS. Significant modifications might include but are not limited to building additions, reconfiguration of the Globe building's interior, and reconfiguration or replacement of the HVAC system. In the event the SSDS is not operating properly, Globe should either notify the Respondents or CRA. Contact information is provided in Section 7.

## **Section 6.0    Troubleshooting**

By design, other than the fans and electrical system, the SSDS has relatively few components that could fail and affect operation. The system fans are designed by the manufacturer for a long operational lifespan. At the end of this lifespan, the fan should be replaced, as necessary, with an equivalent or better performance unit. Warranty information for the system fans is provided in Appendix D. In the



event of failure of the SSDS electrical components (breakers, switches, etc.), the component should be repaired or replaced by a licensed electrical contractor. Where necessary, the subcontractor that installed the system could be contacted to discuss the problem. In the event the subcontractor is not able to assist in fixing the problem, a licensed subcontractor should be contacted to correct the problem and return the SSDS to normal operation. Other SSDS contacts are provided in Section 7.0.

The SSDS is connected directly to Globe building's electrical system. In the event that the fire alarm is activated or Globe building loses power, the SSDS is designed to shut off. Once power is restored to the building, the SSDS will require a manual restart. Once power is restored to the SSDS, it is recommended that each blower fan is inspected and determined to be operational.

## **Section 7.0    Contact Information**

The following is a list of contacts for use regarding the SSDS operation, maintenance, and monitoring:

### **SSDS Design Engineer & Environmental Consultant**

Conestoga-Rovers & Associates, Inc.

Mr. Douglas Gatrell

Mrs. Nicole Shanks

14496 Sheldon Road

Suite 200

Plymouth, Michigan 48170

734-453-5123

### **SSDS Installation Contractor**

Environmental Doctor

Margie and Brenden Gitzinger, Owners



438 Windsor Park Drive

Dayton, Ohio 45459

937-433-3475

[bgitzinger@envirodoc.com](mailto:bgitzinger@envirodoc.com)

**DRAWING**

		<p>SCALE VERIFICATION: THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.</p> 		<p><b>SOUTH DAYTON DUMP AND LANDFILL SITE</b> <b>MORaine, OHIO</b></p>	 <p><b>CONESTOGA-ROVERS &amp; ASSOCIATES</b></p>
		<p>SUB-SLAB DEPRESSURIZATION SYSTEM OM&amp;M PLAN</p> <p><b>2215 EAST RIVER ROAD</b> <b>PARCEL NUMBER 3207, BUILDING 24</b> <b>SSDS LAYOUT</b></p>		<p>Share Reference: _____ Date: _____</p> <p>Project Manager: <b>A. LONEY</b> Reviewed By: <b>N. SHANKS</b> Designed By: <b>N. SHANKS</b> Drawn By: <b>C. ROHRICH</b></p> <p>Scale: <b>1" = 10'</b> Project No: <b>38443-00</b> Report No: <b>021</b> Drawing No: <b>GN-01</b></p>	

## **TABLES**

TABLE 1  
HISTORIC SUB-SLAB ANALYTICAL RESULTS  
GLOBE EQUIPMENT  
2215 EAST RIVER ROAD  
SOUTH DAYTON DUMP AND LANDFILL SITE  
MORAIN, OHIO

Sample Location:				SS-24-A		SS-24-A		SS-24-A		SS-24-A		SS-24-B		SS-24-B		SS-24-B		SS-24-B		SS-24-C		SS-24-C	
Sample Location:				2215 East River Road		2215 East River Road		2215 East River Road		2215 East River Road		2215 East River Road		2215 East River Road		2215 East River Road		2215 East River Road		2215 East River Road		2215 East River Road	
Sample Date:				1/7/2012		3/10/2012		3/10/2012		8/11/2012		1/7/2012		3/10/2012		3/10/2012		8/11/2012		1/7/2012		1/7/2012	
Parameter				Units		ODH Sub-Slab Screening Levels (Non-residential)		ODH Sub-Slab Action Levels (Non-residential)														Duplicate	
				a		b																	
Volatile Organic Compounds																							
1,1,1-Trichloroethane		ppb	NC	NC	0.18 U	0.28 J	-	0.25	3.6	3.3	-	4.8	1.4	1.4	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	
1,1,2,2-Tetrachloroethane		ppb	NC	NC	0.20 U	0.12 U	-	0.061 U	0.14 U	0.061 U	-	0.061 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	
1,1,2-Trichloroethane		ppb	NC	NC	0.095 U	0.11 U	-	0.054 U	0.067 U	0.054 U	-	0.054 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	
1,1-Dichloroethane		ppb	160	1600	0.18 U	0.052 U	-	0.026 U	0.12 U	0.026 U	-	0.026 U	0.035 U	0.035 U	0.035 U	0.035 U	0.035 U	0.035 U	0.035 U	0.035 U	0.035 U	0.035 U	
1,1-Dichloroethene		ppb	NC	NC	0.15 U	0.064 U	-	0.032 U	0.11 U	0.032 U	-	0.032 U	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	
1,2,4-Trichlorobenzene		ppb	NC	NC	0.25 U	0.20 UJ	-	0.098 UJ	0.18 U	0.098 UJ	-	0.098 UJ	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	
1,2,4-Trimethylbenzene		ppb	NC	NC	0.26 U	0.13 U	-	0.32	0.30 J	0.13 J	-	1.9	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	
1,2-Dibromomethane [Ethylene dibromide]		ppb	NC	NC	0.090 U	0.088 U	-	0.044 U	0.063 U	0.044 U	-	0.044 U	0.018 U	0.018 U	0.018 U	0.018 U	0.018 U	0.018 U	0.018 U	0.018 U	0.018 U	0.018 U	
1,2-Dichlorobenzene		ppb	NC	NC	0.24 U	0.14 U	-	0.070 U	0.17 U	0.070 U	-	0.070 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	
1,2-Dichloroethane		ppb	NC	NC	0.16 U	0.094 U	-	0.047 U	0.11 U	0.047 U	-	0.047 U	0.031 U	0.031 U	0.031 U	0.031 U	0.031 U	0.031 U	0.031 U	0.031 U	0.031 U	0.031 U	
1,2-Dichloroethene [total]		ppb	NC	NC	0.91 J	-	-	0.049 U	-	-	-	-	0.014 U	0.014 U	0.014 U	0.014 U	0.014 U	0.014 U	0.014 U	0.014 U	0.014 U	0.014 U	
1,2-Dichloropropane		ppb	NC	NC	0.070 U	0.10 U	-	0.052 U	0.049 U	0.052 U	-	0.052 U	0.014 U	0.014 U	0.014 U	0.014 U	0.014 U	0.014 U	0.014 U	0.014 U	0.014 U	0.014 U	
1,2-Dichlorotetrafluoroethane (CFC 114)		ppb	NC	NC	0.21 J	0.090 J	-	0.032 U	0.11 U	0.032 U	-	0.032 U	0.033 U	0.033 U	0.033 U	0.033 U	0.033 U	0.033 U	0.033 U	0.033 U	0.033 U	0.033 U	
1,3,5-Trimethylbenzene		ppb	NC	NC	0.26 U	0.13 U	-	0.065 U	0.18 U	0.065 U	-	0.065 U	0.051 U	0.051 U	0.051 U	0.051 U	0.051 U	0.051 U	0.051 U	0.051 U	0.051 U	0.051 U	
1,3-Butadiene		ppb	NC	NC	0.050 U	0.13 U	-	0.064 U	0.035 U	0.064 U	-	0.064 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	
1,3-Dichlorobenzene		ppb	NC	NC	0.22 U	0.13 U	-	0.065 U	0.15 U	0.065 U	-	0.065 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	
1,4-Dichlorobenzene		ppb	NC	NC	0.22 U	0.13 U	-	0.064 U	0.21 J	0.064 U	-	0.064 U	0.049 J	0.049 J	0.049 J	0.049 J	0.049 J	0.049 J	0.049 J	0.049 J	0.049 J	0.049 J	
1,4-Dioxane		ppb	NC	NC	0.44 U	0.16 UJ	-	0.080 U	0.31 U	0.080 U	-	0.080 U	0.088 U	0.088 U	0.088 U	0.088 U	0.088 U	0.088 U	0.088 U	0.088 U	0.088 U	0.088 U	
2,2,4-Trimethylpentane		ppb	NC	NC	0.18 U	0.078 U	-	0.039 U	0.13 U	0.039 U	-	0.039 U	0.036 U	0.036 U	0.036 U	0.036 U	0.036 U	0.036 U	0.036 U	0.036 U	0.036 U	0.036 U	
2-Butanone (Methyl ethyl ketone) (MEK)		ppb	NC	NC	0.085 U	0.40 U	-	1.0	7.0	0.27 J	-	0.50 J	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	
2-Chlorotoluene		ppb	NC	NC	0.24 U	0.13 U	-	0.063 U	0.16 U	0.063 U	-	0.063 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	
2-Hexanone		ppb	NC	NC	0.20 U	0.12 UJ	-	0.058 U	0.14 U	0.058 UJ	-	0.072 J	0.039 U	0.039 U	0.039 U	0.039 U	0.039 U	0.039 U	0.039 U	0.039 U	0.039 U	0.039 U	
2-Phenylbutane (sec-Butylbenzene)		ppb	NC	NC	0.24 U	0.13 U	-	0.064 U	0.16 U	0.064 U	-	0.064 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	
4-Ethyl toluene		ppb	NC	NC	0.23 U	0.13 U	-	0.066 U	0.16 U	0.066 U	-	0.18 J	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U	
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIB)		ppb	NC	NC	0.13 U	0.090 UJ	-	2.6	0.25 J	0.045 UJ	-	0.073 J	0.026 U	0.026 U	0.026 U	0.026 U	0.026 U	0.026 U	0.026 U	0.026 U	0.026 U	0.026 U	
Acetone		ppb	NC	NC	2.6 J	3.9 J	-	13	11 J	2.0 J	-	4.1 J	3.5 J	3.5 J	3.5 J	3.5 J	3.5 J	3.5 J	3.5 J	3.5 J	3.5 J	3.5 J	
Allyl chloride		ppb	NC	NC	0.095 U	0.096 U	-	0.048 U	0.067 U	0.048 U	-	0.048 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	
Benzene		ppb	20	200	0.090 UJ	0.11 U	-	0.099 J	0.063 U	0.056 U	-	0.056 U	0.022 J	0.022 J	0.022 J	0.022 J	0.022 J	0.022 J	0.022 J	0.022 J	0.022 J	0.022 J	
Benzyl chloride		ppb	NC	NC	0.23 UJ	0.16 U	-	0.078 U	0.16 UJ	0.078 U	-	0.078 U	0.046 UJ	0.046 UJ	0.046 UJ	0.046 UJ	0.046 UJ	0.046 UJ	0.046 UJ	0.046 UJ	0.046 UJ	0.046 UJ	
Bromodichloromethane		ppb	NC	NC	0.14 U	0.088 U	-	0.044 U	0.098 U	0.044 U	-	0.044 U	0.028 U	0.028 U	0.028 U	0.028 U	0.028 U	0.028 U	0.028 U	0.028 U	0.028 U	0.028 U	
Bromoform		ppb	NC	NC	0.095 U	0.096 U	-	0.048 U	0.067 U	0.048 U	-	0.048 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	
Bromomethane (Methyl bromide)		ppb	NC	NC	0.060 U	0.064 U	-	0.032 U	0.042 U	0.032 U	-	0.032 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	
Butane		ppb	NC	NC	0.055 U	0.39	-	0.70	0.29 J	0.47	-	1.0 J	0.25 J	0.43 J	0.43 J	0.43 J	0.43 J	0.43 J	0.43 J	0.43 J	0.43 J	0.43 J	
Carbon disulfide		ppb	NC	NC	1.6 J	0.23 J	-	0.22 J	11	0.18 J	-	0.29 J	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	
Carbon tetrachloride		ppb	NC	NC	0.17 U	0.076 U	-	0.038 U	0.12 J	0.13 J	-	0.31	0.071 J	0.071 J	0.071 J	0.071 J	0.071 J	0.071 J	0.071 J	0.071 J	0.071 J	0.071 J	
Chlorobenzene		ppb	NC	NC	0.10 U	0.098 U	-	0.049 U	0.070 U	0.049 U	-	0.049 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	
Chlorodifluoromethane		ppb	NC	NC	0.17 U	0.57	-	0.99	0.12 U	0.44	-	1.1	0.034 U	0.034 U	0.034 U	0.034 U	0.034 U	0.034 U	0.034 U	0.034 U	0.034 U	0.034 U	
Chloroethane		ppb	NC	NC	0.080 U	0.070 U	-	0.035 U	0.056 U	0.035 U	-	0.035 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	
Chloroform (Trichloromethane)		ppb	800	8000	0.16 U	0.076 U	-	0.090 J	0.11 U	0.070 J	-	0.075 J	0.031 U	0.031 U	0.031 U	0.031 U	0.031 U	0.031 U	0.031 U	0.031 U	0.031 U	0.031 U	

TABLE 1  
HISTORIC SUB-SLAB ANALYTICAL RESULTS  
GLOBE EQUIPMENT  
2215 EAST RIVER ROAD  
SOUTH DAYTON DUMP AND LANDFILL SITE  
MORAIN, OHIO

Sample Location:		SS-24-A		SS-24-A		SS-24-A		SS-24-A		SS-24-B		SS-24-B		SS-24-B		SS-24-B		SS-24-B		SS-24-C		SS-24-C	
2215 East River Road		2215 East River Road		2215 East River Road		2215 East River Road		2215 East River Road		2215 East River Road		2215 East River Road		2215 East River Road		2215 East River Road		2215 East River Road		2215 East River Road			
Sample Date:		1/7/2012		3/10/2012		3/10/2012		8/11/2012		1/7/2012		3/10/2012		3/10/2012		3/10/2012		8/11/2012		1/7/2012		1/7/2012	
Parameter	Units	ODH Sub-Slab Screening Levels (Non-residential)	ODH Sub-Slab Action Levels (Non-residential)																			Duplicate	
a		b																					
Volatile Organic Compounds Cont'd																							
Chloromethane (Methyl chloride)	ppb	NC	NC	0.065 U	0.32 U	-	0.27 J	0.30 J	0.16 U	-	0.30 J	0.25 J	0.078 J										
cis-1,2-Dichloroethene	ppb	370	3700	0.57 J	0.53	-	0.85	0.049 U	0.093 J	-	0.060 U	0.014 U	0.014 U										
cis-1,3-Dichloropropene	ppb	NC	NC	0.080 U	0.15 U	-	0.074 U	0.056 U	0.074 U	-	0.074 U	0.016 U	0.016 U										
Cyclohexane	ppb	NC	NC	0.20 U	0.080 U	-	0.24 J	0.14 J	0.040 U	-	0.040 U	0.083 J	0.097 J										
Cymene (p-Isopropyltoluene)	ppb	NC	NC	0.24 U	0.11 U	-	0.057 U	1.0	0.057 U	-	0.086 J	0.048 U	0.048 U										
Dibromochloromethane	ppb	NC	NC	0.11 U	0.084 U	-	0.042 U	0.074 U	0.042 U	-	0.042 U	0.021 U	0.021 U										
Dichlorodifluoromethane (CFC-12)	ppb	NC	NC	2.3 J	0.97	-	0.95	0.61 J	0.35	-	0.66	0.67	0.76										
Ethylbenzene	ppb	2500	25000	0.11 U	0.14 U	-	0.68	0.24 J	0.068 U	-	0.068 U	0.022 U	0.16 J										
Hexachlorobutadiene	ppb	NC	NC	0.33 U	0.16 UJ	-	0.078 UJ	0.23 U	0.078 UJ	-	0.078 UJ	0.065 U	0.065 U										
Hexane	ppb	NC	NC	0.13 U	0.079 J	-	0.14 J	0.15 J	0.072 J	-	0.037 J	0.080 J	0.18 J										
Isopropyl alcohol	ppb	NC	NC	0.19 U	0.60 J	-	0.34 J	4.4 J	0.33 J	-	0.24 J	1.8 J	2.0 J										
Isopropyl benzene	ppb	NC	NC	0.16 U	0.12 U	-	0.060 U	0.11 U	0.060 U	-	0.060 U	0.031 U	0.031 U										
m,p-Xylenes	ppb	2000	20000	0.24 U	0.24 U	-	2.5	0.41 J	0.12 U	-	0.18 J	0.062 J	0.39 J										
Methyl methacrylate	ppb	NC	NC	0.065 U	0.16 U	-	0.079 U	0.046 U	0.079 U	-	0.079 U	0.013 U	0.013 U										
Methyl tert butyl ether (MTBE)	ppb	NC	NC	0.080 U	0.34 U	-	0.17 U	0.056 U	0.17 U	-	0.17 U	0.016 U	0.016 U										
Methylene chloride	ppb	NC	NC	0.065 U	0.64 J	-	0.045 U	0.24 U	0.32 J	-	0.045 U	0.066 U	0.12 U										
Naphthalene	ppb	29	NC	0.43 U	0.18 UJ	-	0.090 UJ	0.87 J	0.090 UJ	-	0.090 UJ	0.086 UJ	0.086 UJ										
N-Butylbenzene	ppb	NC	NC	0.28 U	0.092 U	-	0.046 U	0.19 U	0.046 U	-	0.092 J	0.055 U	0.055 U										
N-Decane	ppb	NC	NC	-	0.11 U	-	0.14 J	-	-	-	1.2 J	-	-										
N-Dodecane	ppb	NC	NC	-	0.16 UJ	-	0.14 J	-	-	-	0.22 J	-	-										
N-Heptane	ppb	NC	NC	0.050 U	0.094 U	-	0.18 J	0.24 J	0.047 U	-	0.047 U	0.058 J	0.11 J										
Nonane	ppb	NC	NC	-	0.086 U	-	0.055 J	-	-	-	0.14 J	-	-										
N-Propylbenzene	ppb	NC	NC	0.25 U	0.11 U	-	0.056 U	0.18 U	0.056 U	-	0.11 J	0.050 U	0.050 U										
N-Undecane	ppb	NC	NC	-	0.12 UJ	-	0.19 J	-	-	-	0.24 J	-	-										
Octane	ppb	NC	NC	-	0.072 U	-	0.054 J	-	-	-	0.036 U	-	-										
o-Xylene	ppb	2000	20000	0.11 U	0.12 U	-	1.4	0.16 J	0.061 U	-	0.12 J	0.022 U	0.11 J										
Pentane	ppb	NC	NC	-	0.12 U	-	0.72 J	-	-	-	0.060 U	-	-										
Styrene	ppb	NC	NC	0.15 U	0.12 U	-	0.68	0.11 U	0.058 U	-	0.058 U	0.030 U	0.030 U										
tert-Butyl alcohol	ppb	NC	NC	0.36 U	0.12 J	-	0.038 UJ	0.25 U	0.12 J	-	0.065 J	0.071 U	0.071 U										
tert-Butylbenzene	ppb	NC	NC	0.24 U	0.13 U	-	0.066 U	0.16 U	0.066 U	-	0.066 U	0.047 U	0.047 U										
Tetrachloroethene	ppb	250	2500	25	30	-	39	90	73	-	130	15	15										
Tetrahydrofuran	ppb	NC	NC	0.090 U	0.13 U	-	0.063 U	0.28 J	0.063 U	-	0.063 U	0.54 J	0.076 J										
Toluene	ppb	NC	NC	0.16 J	0.19 J	-	1.9	0.55 J	0.14 J	-	0.15 J	0.12 J	1.9										
trans-1,2-Dichloroethene	ppb	NC	NC	0.34 J	0.27 J	-	0.37	0.11 U	0.050 U	-	0.050 U	0.032 U	0.032 U										
trans-1,3-Dichloropropene	ppb	NC	NC	0.10 U	0.096 U	-	0.048 U	0.070 U	0.048 U	-	0.048 U	0.020 U	0.020 U										
Trichloroethene	ppb	20	200	8.2	7.7	-	10	37*	30*	-	48*	0.99	1.1										
Trichlorofluoromethane (CFC-11)	ppb	NC	NC	3.0	2.5	-	4.3	0.39 J	0.35	-	0.62	1.9	2.0										
Trifluorotrichloroethane (Freon 113)	ppb	NC	NC	0.050 U	0.11 J	-	0.15 J	0.11 J	0.090 J	-	0.16 J	0.093 J	0.098 J										
Vinyl bromide (Bromoethene)	ppb	NC	NC	0.095 U	0.070 U	-	0.035 U	0.067 U	0.035 U	-	0.035 U	0.019 U	0.019 U										
Vinyl chloride	ppb	20	200	0.15 U	0.14 U	-	0.071 U	0.10 U	0.071 U	-	0.071 U	0.029 U	0.029 U										
Xylenes (total)	ppb	NC	NC	0.11 U	-	-	-	0.57 J	-	-	0.062 J	0.50											

TABLE 1  
HISTORIC SUB-SLAB ANALYTICAL RESULTS  
GLOBE EQUIPMENT  
2215 EAST RIVER ROAD  
SOUTH DAYTON DUMP AND LANDFILL SITE  
MORaine, OHIO

Sample Location:	SS-24-A	SS-24-A	SS-24-A	SS-24-A	SS-24-B	SS-24-B	SS-24-B	SS-24-B	SS-24-B	SS-24-C	SS-24-C
Sample Location:	2215 East River Road	2215 East River Road	2215 East River Road	2215 East River Road	2215 East River Road	2215 East River Road	2215 East River Road	2215 East River Road	2215 East River Road	2215 East River Road	2215 East River Road
Sample Date:	1/7/2012	3/10/2012	3/10/2012	8/11/2012	1/7/2012	3/10/2012	3/10/2012	8/11/2012	1/7/2012	1/7/2012	Duplicate
Parameter	Units	ODH Sub-Slab Screening Levels (Non-residential)	ODH Sub-Slab Action Levels (Non-residential)								
		a	b								
<b>Tentatively Identified Compounds (TIC) Volatiles</b>											
(1R)-1,7,7-trimethylbicyclo[2.2.1]heptan-2-one A	ppb	NC	NC	-	-	-	-	-	-	-	-
(1S)-2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene A	ppb	NC	NC	-	-	4.3 NJ	-	-	-	-	-
1,1,3-Trimethylcyclohexane A	ppb	NC	NC	-	-	-	-	-	-	-	-
1,1-Difluoroethane A	ppb	NC	NC	-	-	-	-	-	-	-	-
1,4-Dimethyl-2-ethylbenzene A	ppb	NC	NC	-	-	-	-	-	-	-	-
1-Ethyl-2,4-dimethylbenzene A	ppb	NC	NC	-	-	-	-	-	-	-	-
1-Ethyl-3-methylbenzene A	ppb	NC	NC	-	-	-	-	-	-	-	-
1-Methyl-4-propylbenzene A	ppb	NC	NC	-	-	-	-	-	-	-	-
1R- $\alpha$ -Pinene A	ppb	NC	NC	-	-	-	-	-	-	-	-
2-Methylbutane A	ppb	NC	NC	-	-	6.1 NJ	-	-	-	-	-
2-Methylpentane A	ppb	NC	NC	-	-	-	-	-	-	-	-
3-Methylhexane A	ppb	NC	NC	-	-	-	-	-	-	-	-
3-Methylpentane A	ppb	NC	NC	-	-	-	-	-	-	-	-
4-Methylcyclohexane A	ppb	NC	NC	-	-	-	-	-	-	-	-
6,6-Dimethyl-2-methylbicyclo[3.1.1]heptane A	ppb	NC	NC	-	-	3.9 NJ	-	-	-	-	-
Acetaldehyde A	ppb	110	NC	-	-	7.0 NJ	-	-	3.3 NJ	-	-
Cyclohexane, methyl- A	ppb	NC	NC	-	-	-	-	-	-	-	-
Cyclopentane, methyl- A	ppb	NC	NC	-	-	-	-	-	-	-	-
Cyclohexane, hexamethyl- A	ppb	NC	NC	84 JN	-	-	59 JN	-	-	26 JN	36 JN
Cymene A	ppb	NC	NC	-	-	-	-	-	-	-	-
Ethylcyclohexane A	ppb	NC	NC	-	-	-	-	-	-	-	-
Heptane, 2-methyl- A	ppb	NC	NC	-	-	-	-	-	-	-	-
Heptane, 3-ethyl-2-methyl- A	ppb	NC	NC	-	-	-	-	-	-	-	-
Isobutane A	ppb	NC	NC	-	-	2.6 NJ	-	-	-	-	-
Isobutylene A	ppb	NC	NC	-	-	-	-	-	-	-	-
Isopropyl cyclobutane A	ppb	NC	NC	-	-	-	-	-	-	-	-
N-Chlorosuccinimide A	ppb	NC	NC	-	-	-	-	-	-	20 JN	-
Paraffins A	ppb	NC	NC	-	-	-	-	-	-	-	3.6 JN
Pinene A	ppb	NC	NC	-	-	-	-	-	-	-	-
Propane A	ppb	NC	NC	-	U	U	-	-	U	-	-
Silanol, trimethyl- A	ppb	NC	NC	-	-	-	-	-	-	4.1 JN	-
Trans-1,2-Dimethylcyclohexane A	ppb	NC	NC	-	-	-	-	-	-	-	-
Trans-1,3-Dimethylcyclohexane A	ppb	NC	NC	-	-	-	-	-	-	-	-
Unknown 1	ppb	NC	NC	6.5 J	-	-	6.6 J	-	-	26 J	4.0 J
Unknown 2	ppb	NC	NC	9.8 J	-	-	99 J	-	-	-	21 J
Unknown 3	ppb	NC	NC	190 J	-	-	56 J	-	-	-	30 J
Unknown 4	ppb	NC	NC	92 J	-	-	-	-	-	-	-
Unknown A	ppb	NC	NC	-	86 NJ	-	5.8 NJ	-	15 NJ	-	-
Unknown B	ppb	NC	NC	-	-	-	13 NJ	-	-	-	-
Unknown C	ppb	NC	NC	-	-	-	-	-	-	-	-
Unknown D	ppb	NC	NC	-	-	-	-	-	-	-	-
Unknown E	ppb	NC	NC	-	-	-	-	-	-	-	-
Unknown F	ppb	NC	NC	-	-	-	-	-	-	-	-
Unknown G	ppb	NC	NC	-	-	-	-	-	-	-	-
Unknown H	ppb	NC	NC	-	-	-	-	-	-	-	-
Unknown I	ppb	NC	NC	-	-	-	-	-	-	-	-
Unknown J	ppb	NC	NC	-	-	-	-	-	-	-	-
Unknown K	ppb	NC	NC	-	-	-	-	-	-	-	-
Unknown L	ppb	NC	NC	-	-	-	-	-	-	-	-
Unknown M	ppb	NC	NC	-	-	-	-	-	-	-	-
Unknown N	ppb	NC	NC	-	-	-	-	-	-	-	-
<b>Gases</b>											
Methane	%	0.5	0.5	0.066 U	-	0.18 U	0.21 U	-	0.18 U	0.20 U	0.080 U
<b>Field Parameter</b>											
Methane, field (unfiltered)	%	0.5	0.5	0.0 /0.0	-	-	-	0.0 /0.0	-	-	0.0 /0.0
Methane, field (filtered)	%	0.5	0.5	-	0 /0.0	0 /0.0	0 /0	-	0.0 /0	0 /0.0 /0.0 /0	0 /0

Notes:  
J - The chemical was detected by the laboratory, the listed value is an approximate concentration  
JN or NJ - The listed value of the tentatively identified compound is an approximate concentration  
U - The chemical was not detected in the sample at the detection limit shown.  
- - - The chemical was not detected in the sample at the approximate detection limit shown.  
NC - No criterion  
- - - Not applicable.  
[ ] - Concentration was greater than applicable criteria.

TABLE 1  
HISTORIC SUB-SLAB ANALYTICAL RESULTS  
GLOBE EQUIPMENT  
2215 EAST RIVER ROAD  
SOUTH DAYTON DUMP AND LANDFILL SITE  
MORaine, OHIO

Sample Location:		SS-24-C		SS-24-C		SS-24-C		SS-24-D		SS-24-D		SS-24-D		SS-24-E		SS-24-E		SS-24-E		SS-24-F		SS-24-F		SS-24-F	
Sample Location:		2215 East River Road		2215 East River Road		2215 East River Road		2215 East River Road		2215 East River Road		2215 East River Road		2215 East River Road		2215 East River Road		2215 East River Road		2215 East River Road		2215 East River Road		2215 East River Road	
Sample Date:		3/10/2012		3/10/2012		8/11/2012		1/7/2012		3/10/2012		8/11/2012		1/7/2012		3/10/2012		8/11/2012		1/7/2012		3/10/2012		8/11/2012	
Parameter		Units		ODH Sub-Slab Screening Levels (Non-residential)		ODH Sub-Slab Action Levels (Non-residential)																			
a		b																							
Volatile Organic Compounds																									
1,1,1-Trichloroethane	ppb	NC	NC	1.1	-	0.73	1.4 J	1.5	2.2	0.77	0.74	1.6	1.9	1.6	2.5										
1,1,2,2-Tetrachloroethane	ppb	NC	NC	0.061 U	-	0.061 U	0.40 U	0.061 U	0.061 U	0.080 U	0.061 U	0.061 U	0.040 U	0.061 U	0.061 U										
1,1,2-Trichloroethane	ppb	NC	NC	0.054 U	-	0.054 U	0.19 U	0.054 U	0.054 U	0.038 U	0.054 U	0.054 U	0.019 U	0.054 U	0.054 U										
1,1-Dichloroethane	ppb	160	1600	0.026 U	-	0.026 U	0.35 U	0.026 U	0.026 U	0.070 U	0.026 U	0.026 U	0.035 U	0.026 U	0.026 U										
1,1-Dichloroethene	ppb	NC	NC	0.032 U	-	0.032 U	0.30 U	0.032 U	0.032 U	0.060 U	0.032 U	0.032 U	0.030 U	0.032 U	0.032 U										
1,2,4-Trichlorobenzene	ppb	NC	NC	0.098 UJ	-	0.098 UJ	0.50 U	0.098 UJ	0.098 UJ	0.10 U	0.098 UJ	0.098 UJ	0.050 U	0.098 UJ	0.098 UJ										
1,2,4-Trimethylbenzene	ppb	NC	NC	0.063 U	-	0.85	0.52 U	0.063 U	0.063 U	0.10 U	0.063 U	0.063 U	0.084 J	0.052 U	0.39	0.14 J									
1,2-Dibromoethane (Ethylene dibromide)	ppb	NC	NC	0.044 U	-	0.044 U	0.18 U	0.044 U	0.044 U	0.036 U	0.044 U	0.044 U	0.018 U	0.044 U	0.044 U										
1,2-Dichlorobenzene	ppb	NC	NC	0.070 U	-	0.070 U	0.48 U	0.070 U	0.070 U	0.096 U	0.070 U	0.070 U	0.048 U	0.070 U	0.070 U										
1,2-Dichloroethane	ppb	NC	NC	0.047 U	-	0.047 U	0.31 U	0.047 U	0.047 U	0.062 U	0.047 U	0.047 U	0.031 U	0.047 U	0.047 U										
1,2-Dichloroethene (total)	ppb	NC	NC	-	-	-	0.14 U	-	-	0.028 U	-	-	0.014 U	-	-	-									
1,2-Dichloropropane	ppb	NC	NC	0.052 U	-	0.052 U	0.14 U	0.052 U	0.052 U	0.028 U	0.052 U	0.052 U	0.014 U	0.052 U	0.052 U										
1,2-Dichlorotetrafluoroethane (CFC 114)	ppb	NC	NC	0.032 U	-	0.032 U	0.32 U	0.032 U	0.032 U	0.064 U	0.032 U	0.032 U	0.032 U	0.032 U	0.032 U										
1,3,5-Trimethylbenzene	ppb	NC	NC	0.065 U	-	0.065 U	0.51 U	0.065 U	0.065 U	0.10 U	0.065 U	0.065 U	0.051 U	0.065 U	0.065 U										
1,3-Butadiene	ppb	NC	NC	0.064 U	-	0.064 U	0.10 U	0.064 U	0.064 U	0.020 U	0.064 U	0.064 U	0.010 U	0.064 U	0.064 U										
1,3-Dichlorobenzene	ppb	NC	NC	0.065 U	-	0.065 U	0.44 U	0.065 U	0.065 U	0.088 U	0.065 U	0.065 U	0.044 U	0.065 U	0.065 U										
1,4-Dichlorobenzene	ppb	NC	NC	0.064 U	-	0.064 U	0.44 U	0.064 U	0.064 U	0.088 U	0.064 U	0.069 J	0.044 U	0.064 U	0.064 U										
1,4-Dioxane	ppb	NC	NC	0.080 UJ	-	0.080 U	0.88 U	0.080 UJ	0.080 U	0.18 U	0.080 UJ	0.080 U	0.080 UJ	0.080 U	0.080 U										
2,2,4-Trimethylpentane	ppb	NC	NC	0.039 U	-	0.039 U	0.36 U	0.039 U	0.039 U	0.072 U	0.039 U	0.039 U	0.039 U	0.039 U	0.039 U										
2-Butanone (Methyl ethyl ketone) (MEK)	ppb	NC	NC	0.37 J	-	0.59 J	0.17 U	0.20 U	0.40 J	0.86 J	0.26 J	0.78 J	0.34 J	0.20 U	0.87 J										
2-Chlorotoluene	ppb	NC	NC	0.063 U	-	0.063 U	0.47 U	0.063 U	0.063 U	0.094 U	0.063 U	0.063 U	0.047 U	0.063 U	0.063 U										
2-Hexanone	ppb	NC	NC	0.058 UJ	-	0.058 U	0.39 U	0.058 UJ	0.058 U	0.078 U	0.058 UJ	0.072 J	0.039 U	0.058 UJ	0.058 U										
2-Phenylbutane (sec-Butylbenzene)	ppb	NC	NC	0.064 U	-	0.064 U	0.47 U	0.064 U	0.064 U	0.094 U	0.064 U	0.064 U	0.047 U	0.064 U	0.064 U										
4-Ethyl toluene	ppb	NC	NC	0.066 U	-	0.066 U	0.46 U	0.066 U	0.066 U	0.092 U	0.066 U	0.092 J	0.046 U	0.066 U	0.066 U										
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIB)	ppb	NC	NC	0.045 UJ	-	0.095 J	0.26 U	0.045 UJ	0.045 U	0.052 U	0.045 UJ	0.088 J	0.026 U	0.045 UJ	0.045 U										
Acetone	ppb	NC	NC	3.3 J	-	4.7 J	4.7 J	1.9 J	3.3 J	3.4 J	2.4 J	3.7 J	1.5 J	7.4	7.4										
Allyl chloride	ppb	NC	NC	0.048 U	-	0.048 U	0.19 U	0.048 U	0.048 U	0.038 U	0.048 U	0.048 U	0.019 U	0.048 U	0.048 U										
Benzene	ppb	20	200	0.056 U	-	0.056 U	0.18 U	0.056 U	0.056 U	0.036 U	0.056 U	0.056 U	0.016 U	0.056 U	0.056 U										
Benzyl chloride	ppb	NC	NC	0.078 U	-	0.078 U	0.46 UJ	0.078 U	0.078 U	0.092 UJ	0.078 U	0.078 U	0.046 UJ	0.078 U	0.078 U										
Bromodichloromethane	ppb	NC	NC	0.044 U	-	0.044 U	0.28 U	0.044 U	0.044 U	0.056 U	0.044 U	0.044 U	0.028 U	0.044 U	0.044 U										
Bromoform	ppb	NC	NC	0.048 U	-	0.048 U	0.19 U	0.048 U	0.048 U	0.038 U	0.048 U	0.048 U	0.019 U	0.048 U	0.048 U										
Bromomethane (Methyl bromide)	ppb	NC	NC	0.032 U	-	0.032 U	0.12 U	0.032 U	0.032 U	0.024 U	0.032 U	0.032 U	0.012 U	0.032 U	0.032 U										
Butane	ppb	NC	NC	0.34 J	-	0.23 J	0.11 U	0.93	0.31 J	0.41 J	0.64	0.22 J	0.11 J	2.4	0.21 J										
Carbon disulfide	ppb	NC	NC	0.090 J	-	0.058 J	0.66 U	0.031 U	0.031 U	2.9	0.031 U	0.035 J	0.58	0.031 U	0.051 J	0.061 J									
Carbon tetrachloride	ppb	NC	NC	0.060 J	-	0.11 J	0.33 U	0.038 U	0.038 U	0.066 U	0.038 U	0.038 U	0.033 U	0.038 U	0.038 U										
Chlorobenzene	ppb	NC	NC	0.049 U	-	0.049 U	0.70 J	0.049 U	0.049 U	0.040 U	0.049 U	0.049 U	0.020 U	0.049 U	0.049 U										
Chlorodifluoromethane	ppb	NC	NC	0.26	-	3.3	0.34 U	0.22	2.9	0.068 U	0.31	0.43	0.034 U	1.7	1.3										
Chloroethane	ppb	NC	NC	0.035 U	-	0.035 U	0.16 U	0.035 U	0.035 U	0.032 U	0.035 U	0.039 J	0.016 U	0.035 U	0.035 U										
Chloroform (Trichloromethane)	ppb	800	8000	0.038 U	-	0.038 U	0.31 U	0.038 U	0.038 U	0.062 U	0.038 U	0.038 U	0.031 U	0.038 U	0.038 U										



TABLE 1  
HISTORIC SUB-SLAB ANALYTICAL RESULTS  
GLOBE EQUIPMENT  
2215 EAST RIVER ROAD  
SOUTH DAYTON DUMP AND LANDFILL SITE  
MORAIN, OHIO

Sample Location:		SS-24-C		SS-24-C		SS-24-C		SS-24-D		SS-24-D		SS-24-D		SS-24-E		SS-24-E		SS-24-E		SS-24-F		SS-24-F	
2215 East River Road		2215 East River Road		2215 East River Road		2215 East River Road		2215 East River Road		2215 East River Road		2215 East River Road		2215 East River Road		2215 East River Road		2215 East River Road		2215 East River Road		2215 East River Road	
Sample Date:		3/10/2012		3/10/2012		8/11/2012		1/7/2012		3/10/2012		8/11/2012		1/7/2012		3/10/2012		8/11/2012		1/7/2012		8/11/2012	
Parameter	Units	ODH Sub-Slab Screening Levels (Non-residential)		ODH Sub-Slab Action Levels (Non-residential)																			
a		b																					
Volatile Organic Compounds Cont'd																							
Chloromethane (Methyl chloride)	ppb	NC	NC	0.16 U	-	0.19 J	0.13 U	0.16 U	0.16 U	0.20 J	0.16 U	0.44 J	0.013 U	0.22 J	0.31 J								
cis-1,2-Dichloroethene	ppb	370	3700	0.060 U	-	0.060 U	0.14 U	0.060 U	0.060 U	0.028 U	0.060 U	0.086 J	0.014 U	0.065 J	0.060 U								
cis-1,3-Dichloropropene	ppb	NC	NC	0.074 U	-	0.074 U	0.16 U	0.074 U	0.074 U	0.032 U	0.074 U	0.074 U	0.016 U	0.074 U	0.074 U								
Cyclohexane	ppb	NC	NC	0.040 U	-	0.056 J	0.39 U	0.040 U	0.051 J	0.078 U	0.040 U	0.073 J	0.039 U	0.040 U	0.040 U								
Cymene (p-Isopropyltoluene)	ppb	NC	NC	0.057 U	-	0.057 U	0.48 U	0.057 U	0.057 U	0.096 U	0.057 U	0.057 U	0.048 U	0.060 J	0.094 J								
Dibromochloromethane	ppb	NC	NC	0.042 U	-	0.042 U	0.21 U	0.042 U	0.042 U	0.042 U	0.042 U	0.042 U	0.021 U	0.042 U	0.042 U								
Dichlorodifluoromethane (CFC-12)	ppb	NC	NC	0.18 J	-	3.2	0.60 J	0.29	1.3	0.71 J	0.17 J	0.51	1.1	0.14 J	0.54								
Ethylbenzene	ppb	2500	25000	0.068 U	-	0.068 U	0.45 J	0.068 U	0.068 U	0.044 U	0.068 U	1.4	0.034 J	0.073 J	0.068 U								
Hexachlorobutadiene	ppb	NC	NC	0.078 UJ	-	0.078 UJ	0.65 U	0.078 UJ	0.078 U	0.13 U	0.078 UJ	0.078 U	0.065 U	0.078 UJ	0.078 UJ								
Hexane	ppb	NC	NC	0.045 J	-	0.13 J	0.26 U	0.032 U	0.13 J	0.059 J	0.058 J	0.20 J	0.030 J	0.26 J	0.11 J								
Isopropyl alcohol	ppb	NC	NC	0.72 J	-	0.24 J	0.37 U	0.72 J	0.044 U	1.6 J	0.49 J	0.15 J	1.3 J	0.40 J	0.11 J								
Isopropyl benzene	ppb	NC	NC	0.060 U	-	0.060 U	0.31 U	0.060 U	0.060 U	0.062 U	0.060 U	0.067 J	0.031 U	0.060 U	0.060 U								
m&p-Xylenes	ppb	2000	20000	0.12 U	-	0.22	1.6 J	0.34	0.17 J	0.096 U	0.12 U	4.1	0.069 J	0.34	0.12 U								
Methyl methacrylate	ppb	NC	NC	0.079 U	-	0.079 U	0.13 U	0.079 U	0.079 U	0.026 U	0.079 U	0.079 U	0.013 U	0.079 U	0.079 U								
Methyl tert-butyl ether (MTBE)	ppb	NC	NC	0.17 U	-	0.17 U	0.16 U	0.17 U	0.17 U	0.032 U	0.17 U	0.17 U	0.016 U	0.17 U	0.17 U								
Methylene chloride	ppb	NC	NC	0.21 J	-	0.87	0.13 U	0.16 J	0.56	0.026 U	0.27 J	0.59	0.013 U	0.94	0.94								
Naphthalene	ppb	29	NC	0.090 UJ	-	0.090 UJ	0.86 U	0.090 UJ	0.090 UJ	0.17 U	0.090 UJ	0.090 UJ	0.086 U	0.090 UJ	0.090 UJ								
N-Butylbenzene	ppb	NC	NC	0.046 U	-	0.24 J	0.55 U	0.046 U	0.046 U	0.11 U	0.046 U	0.046 U	0.055 U	0.10 J	0.046 U								
N-Decane	ppb	NC	NC	-	-	1.2 J	-	-	0.066 J	-	-	0.056 UJ	-	-	0.085 J								
N-Dodecane	ppb	NC	NC	-	-	0.13 J	-	-	0.15 J	-	-	0.078 U	-	-	0.078 U								
N-Heptane	ppb	NC	NC	0.047 U	-	0.047 U	0.10 U	0.047 U	0.076 J	0.043 J	0.047 U	1.3	0.010 U	0.047 U	0.047 J								
Nonane	ppb	NC	NC	-	-	0.15 J	-	-	0.043 U	-	-	0.41 J	-	-	0.043 U								
N-Propylbenzene	ppb	NC	NC	0.056 U	-	0.056 U	0.50 U	0.056 U	0.056 U	0.10 U	0.056 U	0.062 J	0.050 U	0.056 U	0.056 U								
N-Undecane	ppb	NC	NC	-	-	1.7	-	-	0.062 U	-	-	0.062 U	-	-	0.062 U								
Octane	ppb	NC	NC	-	-	0.077 J	-	-	0.051 J	-	-	3.0	-	-	0.036 U								
o-Xylene	ppb	2000	20000	0.061 U	-	0.11 J	0.53 J	0.11 J	0.077 J	0.044 U	0.061 U	1.1	0.022 U	0.18 J	0.061 U								
Perthane	ppb	NC	NC	-	-	0.14 J	-	-	0.21 J	-	-	0.18 J	-	-	0.18 J								
Styrene	ppb	NC	NC	0.058 U	-	0.058 U	0.30 U	0.058 U	0.058 U	0.050 U	0.058 U	0.058 U	0.030 U	0.058 U	0.058 U								
tert-Butyl alcohol	ppb	NC	NC	0.12 J	-	0.038 U	0.71 U	0.078 J	0.038 U	0.14 U	0.19 J	0.32 J	2.7 J	0.076 J	0.085 J								
tert-Butylbenzene	ppb	NC	NC	0.066 U	-	0.066 U	0.47 U	0.066 U	0.066 U	0.094 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U								
Tetrachloroethene	ppb	250	2500	15	-	12	4.1	4.7	8.5	5.4	7.3	14	0.73	0.63	2.0								
Tetrahydrofuran	ppb	NC	NC	0.063 U	-	0.063 U	0.18 U	0.063 U	0.063 U	1.5 J	0.063 U	0.063 U	0.018 U	0.063 U	0.063 U								
Toluene	ppb	NC	NC	0.10 J	-	0.31	0.18 U	0.20	0.16 J	0.26	0.18 J	2.6	0.15 J	0.66	0.42								
trans-1,2-Dichloroethene	ppb	NC	NC	0.050 U	-	0.050 U	0.32 U	0.050 U	0.050 U	0.064 U	0.050 U	0.050 U	0.032 U	0.050 U	0.050 U								
trans-1,3-Dichloropropene	ppb	NC	NC	0.048 U	-	0.048 U	0.20 U	0.048 U	0.048 U	0.040 U	0.048 U	0.048 U	0.020 U	0.048 U	0.048 U								
Trichloroethene	ppb	20	200	0.87	-	0.63	0.30 U	0.036 U	0.036 U	0.060 U	0.036 U	1.2	0.11 J	0.036 U	0.10 J								
Trichlorofluoromethane (CFC-11)	ppb	NC	NC	1.0	-	0.86	3.2	1.8	1.5	4.1	2.2	2.9	1.4	2.2	2.2								
Trifluorotrichloroethane (Freon 113)	ppb	NC	NC	0.065 J	-	0.082 J	0.10 U	0.053 J	0.088 J	0.020 U	0.049 J	0.11 J	0.073 J	0.044 J	0.087 J								
Vinyl bromide (Bromoethene)	ppb	NC	NC	0.035 U	-	0.035 U	0.19 U	0.035 U	0.035 U	0.038 U	0.035 U	0.035 U	0.019 U	0.035 U	0.035 U								
Vinyl chloride	ppb	20	200	0.071 U	-	0.071 U	0.29 U	0.071 U	0.071 U	0.058 U	0.071 U	0.071 U	0.029 U	0.071 U	0.071 U								
Xylenes (total)	ppb	NC	NC	-	-	-	2.2	-	-	0.044 U	-	-	0.069 J	-	-								

TABLE 1  
HISTORIC SUB-SLAB ANALYTICAL RESULTS  
GLOBE EQUIPMENT  
2215 EAST RIVER ROAD  
SOUTH DAYTON DUMP AND LANDFILL SITE  
MORaine, OHIO

Sample Location:				SS-24-C	SS-24-C	SS-24-C	SS-24-D	SS-24-D	SS-24-D	SS-24-D	SS-24-E	SS-24-E	SS-24-E	SS-24-F	SS-24-F	SS-24-F
Sample Location:				2215 East River Road	2215 East River Road	2215 East River Road	2215 East River Road	2215 East River Road	2215 East River Road	2215 East River Road	2215 East River Road	2215 East River Road	2215 East River Road	2215 East River Road	2215 East River Road	2215 East River Road
Sample Date:				3/10/2012	3/10/2012	8/11/2012	1/7/2012	3/10/2012	8/11/2012	1/7/2012	3/10/2012	8/11/2012	1/7/2012	3/10/2012	8/11/2012	8/11/2012
Parameter	ODH Sub-Slab		ODH Sub-Slab													
	Units		Action Levels													
	(Non-residential)		(Non-residential)													
a				b												
Tentatively Identified Compounds (TIC) Volatiles																
(1R)-1,7,7-trimethylbicyclo[2.2.1]heptan-2-one A	ppb	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-	-
(1S)-2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene A	ppb	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,3-Trimethylcyclohexane A	ppb	NC	NC	-	-	-	-	-	-	-	-	4.8 NJ	-	-	-	-
1,1-Difluoroethane A	ppb	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dimethyl-2-ethylbenzene A	ppb	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-	-
1-Ethyl-2,4-dimethylbenzene A	ppb	NC	NC	-	-	4.4 NJ	-	-	-	-	-	-	-	-	-	-
1-Ethyl-3-methylbenzene A	ppb	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-	-
1-Methyl-4-propylbenzene A	ppb	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-	-
1R- $\alpha$ -Pinene A	ppb	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylbutane A	ppb	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylpentane A	ppb	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-	-
3-Methylhexane A	ppb	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-	-
3-Methylpentane A	ppb	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Methylcycloctane A	ppb	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-	-
6,6-Dimethyl-2-methylbicyclo[3.1.1]heptane A	ppb	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-	-
Acetaldehyde A	ppb	110	NC	-	-	2.7 NJ	-	-	2.4 NJ	-	-	6.7 NJ	-	-	-	6.3 NJ
Cyclohexane, methyl A	ppb	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclopentane, methyl- A	ppb	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclotrisiloxane, hexamethyl- A	ppb	NC	NC	-	-	-	-	-	-	51 JN	-	-	41 JN	-	-	-
Cymene A	ppb	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylcyclohexane A	ppb	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-	-
Heptane, 2-methyl- A	ppb	NC	NC	-	-	-	-	-	-	-	-	-	3.2 NJ	-	-	-
Heptane, 3-ethyl-2-methyl- A	ppb	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-	-
Isobutane A	ppb	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-	-
Isobutylene A	ppb	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-	-
Isopropyl cyclobutane A	ppb	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Chlorosuccinimide A	ppb	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-	-
Pentane A	ppb	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-	-
Pinene A	ppb	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-	-
Propane A	ppb	NC	NC	-	-	U	-	-	U	-	-	U	-	-	-	U
Silanol, trimethyl- A	ppb	NC	NC	-	-	-	-	-	-	7.1 JN	-	-	4.2 JN	-	-	-
trans-1,2-Dimethylcyclohexane A	ppb	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,3-Dimethylcyclohexane A	ppb	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-	-
Unknown 1	ppb	NC	NC	-	-	-	64 J	-	-	84 J	-	-	23 J	-	-	-
Unknown 2	ppb	NC	NC	-	-	-	290 J	-	-	51 J	-	-	30 J	-	-	-
Unknown 3	ppb	NC	NC	-	-	-	140 J	-	-	-	-	-	-	-	-	-
Unknown 4	ppb	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-	-
Unknown A	ppb	NC	NC	-	-	4.2 NJ	-	-	11 NJ	-	-	28 NJ	-	-	-	5.7 NJ
Unknown B	ppb	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-	3.2 NJ
Unknown C	ppb	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-	-
Unknown D	ppb	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-	-
Unknown E	ppb	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-	-
Unknown F	ppb	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-	-
Unknown G	ppb	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-	-
Unknown H	ppb	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-	-
Unknown I	ppb	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-	-
Unknown J	ppb	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-	-
Unknown K	ppb	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-	-
Unknown L	ppb	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-	-
Unknown M	ppb	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-	-
Unknown N	ppb	NC	NC	-	-	-	-	-	-	-	-	-	-	-	-	-
Gases																
Methane	%	0.5	0.5	-	0.19 U	0.19 U	-	-	0.24 U	-	-	0.20 U	-	-	-	0.33 U
Field Parameter																
Methane, field (unfiltered)	%	0.5	0.5	-	-	-	0.0 /0.0	-	-	0.0 /0.0	-	-	0.0 /0.0	-	-	-
Methane, field (filtered)	%	0.5	0.5	0 /0.0	0 /0.0	0 /0	-	0 /0.0	0 /0	-	0 /0.0	0 /0	-	0.0 /0.0	0 /0.0	0 /0

Notes:  
J - The chemical was detected by the laboratory, the listed value is an approximate concentration  
JN or NJ - The listed value of the tentatively identified compound is an approximate concentration  
U - The chemical was not detected in the sample at the detection limit shown.  
UJ - The chemical was not detected in the sample at the approximate detection limit shown.  
NC - No criterion  
-- - Not applicable.  
[ ] - Concentration was greater than applicable criteria.

TABLE 2  
HISTORIC INDOOR AIR ANALYTICAL RESULTS  
GLOBE EQUIPMENT  
2215 EAST RIVER ROAD  
SOUTH DAYTON DUMP AND LANDFILL SITE  
MORaine, OHIO

Sample Location:	Outdoor Air			IA_A		
Sample Location:	2215 East River Road			2215 East River Road		
Sample Date:	3/10/2012			3/10/2012		
	8/11/2012			8/11/2012		
	Duplicate					
Parameter	Units	ODH Indoor Air Screening Levels (Non-residential)	ODH Indoor Air Action Levels (Non-residential)			
		a	b			
Volatile Organic Compounds						
1,1,1-Trichloroethane	ppb	NC	NC	0.030 U	0.030 U	0.030 U
1,1,2,2-Tetrachloroethane	ppb	NC	NC	0.061 U	0.061 U	0.061 U
1,1,2-Trichloroethane	ppb	NC	NC	0.054 U	0.054 U	0.054 U
1,1-Dichloroethane	ppb	16	160	0.026 U	0.026 U	0.026 U
1,1-Dichloroethene	ppb	NC	NC	0.032 U	0.032 U	0.032 U
1,2,4-Trichlorobenzene	ppb	NC	NC	0.098 UJ	0.098 UJ	0.098 UJ
1,2,4-Trimethylbenzene	ppb	NC	NC	0.063 U	0.13 J	1.4
1,2-Dibromoethane(Ethylene dibromide)	ppb	NC	NC	0.044 U	0.044 U	0.044 U
1,2-Dichlorobenzene	ppb	NC	NC	0.070 U	0.070 U	0.070 U
1,2-Dichloroethane	ppb	NC	NC	0.047 U	0.047 U	0.047 U
1,2-Dichloroethene (total)	ppb	NC	NC	-	-	-
1,2-Dichloropropane	ppb	NC	NC	0.052 U	0.052 U	0.052 U
1,2-Dichlorotetrafluoroethane (CFC 114)	ppb	NC	NC	0.032 U	0.032 U	0.032 U
1,3,5-Trimethylbenzene	ppb	NC	NC	0.065 U	0.099 J	0.23
1,3-Butadiene	ppb	NC	NC	0.064 U	0.064 U	0.064 U
1,3-Dichlorobenzene	ppb	NC	NC	0.065 U	0.065 U	0.065 U
1,4-Dichlorobenzene	ppb	NC	NC	0.064 U	0.064 U	0.064 U
1,4-Dioxane	ppb	NC	NC	0.080 UJ	0.080 UJ	0.080 UJ
2,2,4-Trimethylpentane	ppb	NC	NC	0.039 U	0.039 U	0.078 J
2-Butanone (Methyl ethyl ketone) (MEK)	ppb	NC	NC	0.40 J	0.31 J	1.1
2-Chlorotoluene	ppb	NC	NC	0.063 U	0.063 U	1.3
2-Hexanone	ppb	NC	NC	0.058 UJ	0.058 UJ	0.063 U
2-Phenylbutane (sec-Butylbenzene)	ppb	NC	NC	0.064 U	0.064 U	0.063 U
4-Ethyl toluene	ppb	NC	NC	0.066 U	0.064 U	0.058 UJ
4-Methyl-2-pentanone(Methyl isobutyl ketone) (MIB)	ppb	NC	NC	0.045 UJ	0.045 U	0.067 J
Acetone	ppb	NC	NC	1.4 U	3.7 J	0.22 J
Allyl chloride	ppb	NC	NC	0.048 U	0.048 U	0.064 U
Benzene	ppb	2	20	0.14 J	0.065 J	15
Benzyl chloride	ppb	NC	NC	0.078 U	0.078 U	23
Bromodichloromethane	ppb	NC	NC	0.044 U	0.044 U	25
Bromoform	ppb	NC	NC	0.048 U	0.048 U	42
Bromomethane (Methyl bromide)	ppb	NC	NC	0.032 U	0.032 U	0.048 U
Butane	ppb	NC	NC	1.5	0.032 U	0.032 U
Carbon disulfide	ppb	NC	NC	0.031 U	0.22 J	0.032 U
Carbon tetrachloride	ppb	NC	NC	0.091 J	0.031 U	4.0
Chlorobenzene	ppb	NC	NC	0.049 U	0.076 J	2.1
Chlorodifluoromethane	ppb	NC	NC	0.96	0.049 U	0.15 J
Chloroethane	ppb	NC	NC	0.035 U	0.049 U	0.074 J
						0.082 J
						0.049 U
						0.96
						0.035 U

TABLE 2  
HISTORIC INDOOR AIR ANALYTICAL RESULTS  
GLOBE EQUIPMENT  
2215 EAST RIVER ROAD  
SOUTH DAYTON DUMP AND LANDFILL SITE  
MORaine, OHIO

Sample Location:	Outdoor Air		Outdoor Air		Outdoor Air		IA_A	IA_A	IA_C
Sample Location:	2215 East River Road		2215 East River Road		2215 East River Road		2215 East River Road	2215 East River Road	2215 East River Road
Sample Date:	3/10/2012		8/11/2012		8/11/2012		3/10/2012	8/11/2012	3/10/2012
					Duplicate				
Parameter	Units	ODH Indoor Air Screening Levels (Non-residential)	ODH Indoor Air Action Levels (Non-residential)						
		a	b						
Volatile Organic Compounds Cont'd									
Chloroform (Trichloromethane)	ppb	80	800	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U
Chloromethane (Methyl chloride)	ppb	NC	NC	0.52	0.61	0.54	0.58	0.72	0.47 J
cis-1,2-Dichloroethene	ppb	37	370	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
cis-1,3-Dichloropropene	ppb	NC	NC	0.074 U	0.074 U	0.074 U	0.074 U	0.074 U	0.074 U
Cyclohexane	ppb	NC	NC	0.040 U	0.052 J	0.040 U	0.42 J	0.77	0.48 J
Cymene (p-Isopropyltoluene)	ppb	NC	NC	0.057 U	0.057 U	0.057 U	0.076 J	0.21	0.098 J
Dibromochloromethane	ppb	NC	NC	0.042 U	0.042 U	0.042 U	0.042 U	0.042 U	0.042 U
Dichlorodifluoromethane (CFC-12)	ppb	NC	NC	0.45	0.53	0.42	0.48	0.47	0.47
Ethylbenzene	ppb	250	2500	0.068 U	0.068 U	0.068 U	2.1	3.2	2.2
Hexachlorobutadiene	ppb	NC	NC	0.078 UJ	0.078 UJ	0.078 U	0.078 UJ	0.078 UJ	0.078 UJ
Hexane	ppb	NC	NC	0.12 J	0.15 J	0.12 J	0.32 J	0.44 J	0.37 J
Isopropyl alcohol	ppb	NC	NC	0.20 J	0.30 J	0.17 J	11	9.6	14
Isopropyl benzene	ppb	NC	NC	0.060 U	0.060 U	0.060 U	0.080 J	0.12 J	0.086 J
m&p-Xylenes	ppb	200	2000	0.12 U	0.12 U	0.20	8.4	11	9.6
Methyl methacrylate	ppb	NC	NC	0.079 U	0.079 U	0.079 U	0.079 U	0.079 U	0.079 J
Methyl tert butyl ether (MTBE)	ppb	NC	NC	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
Methylene chloride	ppb	NC	NC	0.59	0.045 U	0.77	0.53	0.045 U	0.26 J
Naphthalene	ppb	2.9	NC	0.090 UJ	0.090 UJ	0.10 J	0.090 UJ	0.096 J	0.090 UJ
N-Butylbenzene	ppb	NC	NC	0.046 U	0.046 U	0.046 U	0.046 U	0.050 J	0.046 U
N-Decane	ppb	NC	NC	-	0.056 UJ	0.16 J	-	0.30 J	-
N-Dodecane	ppb	NC	NC	-	0.078 U	0.078 U	-	0.47 J	-
N-Heptane	ppb	NC	NC	0.047 U	0.17 J	0.047 U	1.1	0.72	1.3
Nonane	ppb	NC	NC	-	0.043 U	0.043 U	-	0.12 J	-
N-Propylbenzene	ppb	NC	NC	0.056 U	0.056 U	0.056 U	0.092 J	0.15 J	0.10 J
N-Undecane	ppb	NC	NC	-	0.062 U	0.086 J	-	0.72 J	-
Octane	ppb	NC	NC	-	0.036 U	0.036 U	-	0.12 J	-
o-Xylene	ppb	200	2000	0.061 U	0.061 U	0.061 U	3.9	6.4	4.5
Pentane	ppb	NC	NC	-	0.25 J	0.20 J	-	1.4	-
Styrene	ppb	NC	NC	0.058 U	0.058 U	0.058 U	2.6	4.4	2.2
tert-Butyl alcohol	ppb	NC	NC	0.038 U	0.081 J	0.038 U	0.13 J	0.71 J	0.19 J
tert-Butylbenzene	ppb	NC	NC	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U
Tetrachloroethene	ppb	25	250	0.060 J	0.040 U	0.040 U	0.23	0.22	0.28
Tetrahydrofuran	ppb	NC	NC	0.063 U	0.063 U	0.063 U	0.063 U	0.34 J	0.20 J
Toluene	ppb	NC	NC	0.16 J	0.97	0.64	6.6	8.0	5.7
trans-1,2-Dichloroethene	ppb	NC	NC	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U
trans-1,3-Dichloropropene	ppb	NC	NC	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U
Trichloroethene	ppb	2	20	0.036 U	0.036 U	0.036 U	0.057 J	0.053 J	0.071 J
Trichlorofluoromethane (CFC-11)	ppb	NC	NC	0.24	0.26	0.23	0.23	0.24	0.23
Trifluorotrichloroethane (Freon 113)	ppb	NC	NC	0.068 J	0.081 J	0.069 J	0.063 J	0.078 J	0.069 J
Vinyl bromide (Bromoethene)	ppb	NC	NC	0.035 U	0.035 U	0.035 U	0.035 U	0.035 U	0.035 U
Vinyl chloride	ppb	2	20	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U
Xylenes (total)	ppb	NC	NC	-	-	-	-	-	-

TABLE 2  
HISTORIC INDOOR AIR ANALYTICAL RESULTS  
GLOBE EQUIPMENT  
2215 EAST RIVER ROAD  
SOUTH DAYTON DUMP AND LANDFILL SITE  
MORaine, OHIO

Sample Location:		Outdoor Air		Outdoor Air		Outdoor Air		IA_A	IA_A	IA_C
Sample Location:		2215 East River Road		2215 East River Road		2215 East River Road		2215 East River Road	2215 East River Road	2215 East River Road
Sample Date:		3/10/2012		8/11/2012		8/11/2012		3/10/2012	8/11/2012	3/10/2012
						Duplicate				
Parameter	Units	ODH Indoor Air	ODH Indoor Air							
		Screening Levels	Action Levels							
		(Non-residential)	(Non-residential)							
		a	b							
Tentatively Identified Compounds (TIC) Volatiles										
1R- alpha- Pinene A	ppb	NC	NC	-	-	-	-	-	22 NJ	-
2-Methylbutane A	ppb	NC	NC	-	-	-	-	-	32 NJ	-
2-Methylpentane A	ppb	NC	NC	-	-	-	-	-	3.1 NJ	-
3-Methylhexane A	ppb	NC	NC	-	-	-	-	-	-	-
3-Methylpentane A	ppb	NC	NC	-	-	-	-	-	-	-
6,6-Dimethyl-2-me-bicyclo[3.1.1]heptaneA	ppb	NC	NC	-	-	-	-	-	-	-
Acetaldehyde A	ppb	11	NC	-	3.6 NJ	3.0 NJ	-	-	-	-
beta- Pinene A	ppb	NC	NC	-	-	-	-	-	19 NJ	-
Decahydro-2-methylnaphthaleneA	ppb	NC	NC	-	-	-	-	-	-	-
d-Limonene A	ppb	NC	NC	-	-	-	-	-	1.8 NJ	-
Ethanol A	ppb	NC	NC	-	-	-	-	-	6.0 NJ	-
Ethyl acetate A	ppb	NC	NC	-	-	-	-	-	-	-
Hexanal A	ppb	NC	NC	-	-	-	-	-	-	-
Isobutane A	ppb	NC	NC	-	-	-	-	-	-	-
Methanol A	ppb	NC	NC	-	-	-	-	-	18 NJ	-
Naphthalene, decahydro-, trans- A	ppb	NC	NC	-	-	-	-	-	-	-
Pinene A	ppb	NC	NC	-	-	-	-	-	-	-
Propane A	ppb	NC	NC	-	U	U	-	-	U	-
Unknown A	ppb	NC	NC	-	2.2 NJ	-	-	-	-	-
Unknown B	ppb	NC	NC	-	-	-	-	-	-	-
Gases										
Methane	%	0.05	0.05	-	0.19 U <sup>ab</sup>	0.21 U <sup>ab</sup>	-	-	0.19 U <sup>ab</sup>	-
Field Parameter										
Methane, field (unfiltered)	%	0.05	0.05	-	-	-	-	-	-	-
Methane, field (filtered)	%	0.05	0.05	0.0 /0	0 /0	0 /0	0.0 /0	0 /0	0 /0	0 /0.0

Notes:

IA - Indoor Air Sample

ppb - parts per billion

J - The chemical was detected by the laboratory, the listed value is an approximate concentration.

JN or NJ - The listed value of the tentatively identified compound is an approximate concentration.

U - The chemical was not detected in the sample at the detection limit shown.

UJ - The chemical was not detected in the sample at the approximate detection limit shown.

NC - No criterion

-- Not applicable.

TABLE 2  
HISTORIC INDOOR AIR ANALYTICAL RESULTS  
GLOBE EQUIPMENT  
2215 EAST RIVER ROAD  
SOUTH DAYTON DUMP AND LANDFILL SITE  
MORaine, OHIO

Sample Location:	IA_C		IA_C		IA_D		IA_D		IA_F	
Sample Location:	2215 East River Road		2215 East River Road		2215 East River Road		2215 East River Road		2215 East River Road	
Sample Date:	3/10/2012		8/11/2012		3/10/2012		8/11/2012		3/10/2012	
	Duplicate									
Parameter	Units	ODH Indoor Air Screening Levels (Non-residential)	ODH Indoor Air Action Levels (Non-residential)							
		a	b							
Volatile Organic Compounds										
1,1,1-Trichloroethane	ppb	NC	NC	0.030 U	0.036 J	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U
1,1,2,2-Tetrachloroethane	ppb	NC	NC	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
1,1,2-Trichloroethane	ppb	NC	NC	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
1,1-Dichloroethane	ppb	16	160	0.026 U	0.026 U	0.026 U	0.026 U	0.026 U	0.026 U	0.026 U
1,1-Dichloroethene	ppb	NC	NC	0.032 U	0.032 U	0.032 U	0.032 U	0.032 U	0.032 U	0.032 U
1,2,4-Trichlorobenzene	ppb	NC	NC	0.098 UJ	0.098 UJ	0.098 UJ	0.098 UJ	0.098 UJ	0.098 UJ	0.098 U
1,2,4-Trimethylbenzene	ppb	NC	NC	0.35	1.1	0.14 J	0.57	0.38	1.2	
1,2-Dibromoethane(Ethylene dibromide)	ppb	NC	NC	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U
1,2-Dichlorobenzene	ppb	NC	NC	0.070 U	0.070 U	0.070 U	0.095 J	0.070 U	0.070 U	0.070 U
1,2-Dichloroethane	ppb	NC	NC	0.047 U	0.047 U	0.047 U	0.066 J	0.047 U	0.047 U	0.047 U
1,2-Dichloroethene (total)	ppb	NC	NC	-	-	-	-	-	-	-
1,2-Dichloropropane	ppb	NC	NC	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U
1,2-Dichlorotetrafluoroethane (CFC 114)	ppb	NC	NC	0.032 U	0.032 U	0.032 U	0.032 U	0.032 U	0.032 U	0.032 U
1,3,5-Trimethylbenzene	ppb	NC	NC	0.19 J	0.21	0.065 U	0.12 J	0.088 J	0.25	
1,3-Butadiene	ppb	NC	NC	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U
1,3-Dichlorobenzene	ppb	NC	NC	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U
1,4-Dichlorobenzene	ppb	NC	NC	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U
1,4-Dioxane	ppb	NC	NC	0.080 UJ	0.080 U	0.080 UJ	0.080 U	0.080 UJ	0.080 U	0.080 U
2,2,4-Trimethylpentane	ppb	NC	NC	0.099 J	0.11 J	0.058 J	0.070 J	0.17 J	0.16 J	
2-Butanone (Methyl ethyl ketone) (MEK)	ppb	NC	NC	1.1	2.0	0.64 J	1.5	1.7	1.8	
2-Chlorotoluene	ppb	NC	NC	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U
2-Hexanone	ppb	NC	NC	0.058 UJ	0.17 J	0.058 UJ	0.12 J	0.058 UJ	0.12 J	
2-Phenylbutane (sec-Butylbenzene)	ppb	NC	NC	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U
4-Ethyl toluene	ppb	NC	NC	0.16 J	0.24 J	0.095 J	0.16 J	0.18 J	0.44	
4-Methyl-2-pentanone(Methyl isobutyl ketone) (MIB)	ppb	NC	NC	3.5 J	5.9	0.78 J	3.2	2.3 J	3.8	
Acetone	ppb	NC	NC	30	46	16	58	50	21	
Allyl chloride	ppb	NC	NC	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U
Benzene	ppb	2	20	0.25	0.37	0.19 J	0.24	0.31	0.69	
Benzyl chloride	ppb	NC	NC	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U
Bromodichloromethane	ppb	NC	NC	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U
Bromoform	ppb	NC	NC	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U
Bromomethane (Methyl bromide)	ppb	NC	NC	0.032 U	0.032 U	0.032 U	0.032 U	0.032 U	0.032 U	0.032 U
Butane	ppb	NC	NC	4.7	4.7	4.2	9.6	11	6.6	
Carbon disulfide	ppb	NC	NC	0.040 J	0.18 J	0.031 U	0.16 J	0.031 U	0.16 J	
Carbon tetrachloride	ppb	NC	NC	0.080 J	0.072 J	0.075 J	0.080 J	0.077 J	0.067 J	
Chlorobenzene	ppb	NC	NC	0.049 U	0.049 U	0.049 U	0.049 U	0.063 J	0.049 U	0.049 U
Chlorodifluoromethane	ppb	NC	NC	1.0	7.1	1.3	27	0.88	5.9	
Chloroethane	ppb	NC	NC	0.035 U	0.035 U	0.035 U	0.035 U	0.035 U	0.035 U	0.035 U

TABLE 2  
HISTORIC INDOOR AIR ANALYTICAL RESULTS  
GLOBE EQUIPMENT  
2215 EAST RIVER ROAD  
SOUTH DAYTON DUMP AND LANDFILL SITE  
MORaine, OHIO

Sample Location:			IA_C		IA_C		IA_D		IA_D		IA_F		IA_F	
Sample Location:			2215 East River Road		2215 East River Road		2215 East River Road		2215 East River Road		2215 East River Road		2215 East River Road	
Sample Date:			3/10/2012		8/11/2012		3/10/2012		8/11/2012		3/10/2012		8/11/2012	
			Duplicate											
Parameter	Units	ODH Indoor Air	ODH Indoor Air											
		Screening Levels	Action Levels											
		(Non-residential)	(Non-residential)											
		a	b											
Volatile Organic Compounds Cont'd														
Chloroform (Trichloromethane)	ppb	80	800	0.038 U	0.039 J	0.038 U	0.079 J	0.038 U	0.041 J					
Chloromethane (Methyl chloride)	ppb	NC	NC	0.59	0.59	0.51	0.82	0.31 J	0.56					
cis-1,2-Dichloroethene	ppb	37	370	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U					
cis-1,3-Dichloropropene	ppb	NC	NC	0.074 U	0.074 U	0.074 U	0.074 U	0.074 U	0.074 U					
Cyclohexane	ppb	NC	NC	0.46 J	1.2	0.31 J	1.4	0.65	1.4					
Cymene (p-Isopropyltoluene)	ppb	NC	NC	0.068 J	0.15 J	0.057 U	0.098 J	0.13 J	0.099 J					
Dibromochloromethane	ppb	NC	NC	0.042 U	0.042 U	0.042 U	0.042 U	0.042 U	0.042 U					
Dichlorodifluoromethane (CFC-12)	ppb	NC	NC	0.43	0.46	0.38	0.43	0.42	0.44					
Ethylbenzene	ppb	250	2500	1.8	2.9	0.63	1.4	1.4	2.4					
Hexachlorobutadiene	ppb	NC	NC	0.078 UJ	0.078 UJ	0.078 UJ	0.078 UJ	0.078 UJ	0.078 UJ					
Hexane	ppb	NC	NC	0.34 J	0.83	0.30 J	0.49 J	0.56	1.6					
Isopropyl alcohol	ppb	NC	NC	11	18	25	61	8.8	13					
Isopropyl benzene	ppb	NC	NC	0.073 J	0.14 J	0.060 U	0.074 J	0.060 U	0.11 J					
m&p-Xylenes	ppb	200	2000	7.4	7.9	2.5	3.7	5.9	7.3					
Methyl methacrylate	ppb	NC	NC	0.079 U	0.079 U	0.079 U	0.079 U	0.079 U	0.12 J					
Methyl tert butyl ether (MTBE)	ppb	NC	NC	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U					
Methylene chloride	ppb	NC	NC	0.35 J	0.53	2.0	0.045 U	0.25 J	0.63					
Naphthalene	ppb	2.9	NC	0.090 UJ	0.13 J	0.090 UJ	0.090 UJ	0.090 UJ	0.15 J					
N-Butylbenzene	ppb	NC	NC	0.046 U	0.061 J	0.046 U	0.046 U	0.051 J	0.080 J					
N-Decane	ppb	NC	NC	-	0.74 J	-	0.36 J	-	0.74 J					
N-Dodecane	ppb	NC	NC	-	0.93 J	-	0.078 U	-	0.86 J					
N-Heptane	ppb	NC	NC	1.4	1.6	0.65	1.1	2.7	3.1					
Nonane	ppb	NC	NC	-	0.20 J	-	0.17 J	-	0.22 J					
N-Propylbenzene	ppb	NC	NC	0.079 J	0.17 J	0.056 U	0.10 J	0.086 J	0.24 J					
N-Undecane	ppb	NC	NC	-	1.8	-	0.31 J	-	1.5					
Octane	ppb	NC	NC	-	0.21 J	-	0.18 J	-	0.38 J					
o-Xylene	ppb	200	2000	3.6	3.7	1.1	1.7	2.7	3.1					
Pentane	ppb	NC	NC	-	2.8	-	1.8	-	5.1					
Styrene	ppb	NC	NC	1.7	3.1	0.54	1.0	1.2	2.1					
tert-Butyl alcohol	ppb	NC	NC	0.14 J	0.66 J	0.11 J	0.25 J	0.12 J	0.32 J					
tert-Butylbenzene	ppb	NC	NC	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U					
Tetrachloroethene	ppb	25	250	0.30	0.44	0.11 J	0.24	0.17 J	0.23					
Tetrahydrofuran	ppb	NC	NC	0.063 U	0.26 J	0.063 U	0.12 J	0.063 U	0.71 J					
Toluene	ppb	NC	NC	5.2	14	2.4	8.1	5.8	29					
trans-1,2-Dichloroethene	ppb	NC	NC	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U					
trans-1,3-Dichloropropene	ppb	NC	NC	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U					
Trichloroethene	ppb	2	20	0.070 J	0.12 J	0.15 J	0.37	0.15 J	0.065 J					
Trichlorofluoromethane (CFC-11)	ppb	NC	NC	0.23	0.27	0.23	0.21	0.20	0.22					
Trifluorotrichloroethane (Freon 113)	ppb	NC	NC	0.062 J	0.073 J	0.060 J	0.069 J	0.075 J	0.069 J					
Vinyl bromide (Bromoethene)	ppb	NC	NC	0.035 U	0.035 U	0.035 U	0.035 U	0.035 U	0.035 U					
Vinyl chloride	ppb	2	20	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U					
Xylenes (total)	ppb	NC	NC	-	-	-	-	-	-					

TABLE 2  
HISTORIC INDOOR AIR ANALYTICAL RESULTS  
GLOBE EQUIPMENT  
2215 EAST RIVER ROAD  
SOUTH DAYTON DUMP AND LANDFILL SITE  
MORaine, OHIO

Sample Location:				IA_C	IA_C	IA_D	IA_D	IA_F	IA_F
Sample Location:				2215 East River Road	2215 East River Road	2215 East River Road	2215 East River Road	2215 East River Road	2215 East River Road
Sample Date:				3/10/2012	8/11/2012	3/10/2012	8/11/2012	3/10/2012	8/11/2012
				Duplicate					
Parameter	Units	ODH Indoor Air	ODH Indoor Air						
		Screening Levels	Action Levels						
		(Non-residential)	(Non-residential)						
		a	b						
Tentatively Identified Compounds (TIC) Volatiles									
1R-.alpha.-Pinene A	ppb	NC	NC	-	9.8 NJ	-	-	-	11 NJ
2-Methylbutane A	ppb	NC	NC	-	31 NJ	-	15 NJ	-	44 NJ
2-Methylpentane A	ppb	NC	NC	-	4.5 NJ	-	3.0 NJ	-	7.1 NJ
3-Methylhexane A	ppb	NC	NC	-	-	-	-	-	4.4 NJ
3-Methylpentane A	ppb	NC	NC	-	-	-	-	-	3.6 NJ
6,6-Dimethyl-2-me-bicyclo[3.1.1]heptanoA	ppb	NC	NC	-	7.7 NJ	-	3.7 NJ	-	9.1 NJ
Acetaldehyde A	ppb	11	NC	-	-	-	-	-	-
beta-Pinene A	ppb	NC	NC	-	-	-	-	-	-
Decahydro-2-methylnaphthaleneA	ppb	NC	NC	-	-	-	-	-	3.5 NJ
d-Limonene A	ppb	NC	NC	-	-	-	-	-	4.0 NJ
Ethanol A	ppb	NC	NC	-	10 NJ	-	18 NJ	-	12 NJ
Ethyl acetate A	ppb	NC	NC	-	3.2 NJ	-	-	-	9.5 NJ
Hexanal A	ppb	NC	NC	-	-	-	1.3 NJ	-	-
Isobutane A	ppb	NC	NC	-	-	-	-	-	5.4 NJ
Methanol A	ppb	NC	NC	-	23 NJ	-	20 NJ	-	24 NJ
Naphthalene, decahydro-, trans- A	ppb	NC	NC	-	-	-	-	-	4.2 NJ
Pinene A	ppb	NC	NC	-	-	-	4.6 NJ	-	-
Propane A	ppb	NC	NC	-	U	-	U	-	10 NJ
Unknown A	ppb	NC	NC	-	2.6 NJ	-	2.8 NJ	-	3.4 NJ
Unknown B	ppb	NC	NC	-	-	-	-	-	-
Gases									
Methane	%	0.05	0.05	-	0.20 U <sup>ab</sup>	-	0.20 U <sup>ab</sup>	-	0.19 U <sup>ab</sup>
Field Parameter									
Methane, field (unfiltered)	%	0.05	0.05	-	-	-	-	-	-
Methane, field (filtered)	%	0.05	0.05	0.0 /0	0 /0	0 /0.0	0 /0	0.0 /0	0 /0

Notes:

IA - Indoor Air Sample  
ppb - parts per billion  
J - The chemical was detected by the laboratory, the listed value is an approximate concentration.  
JN or NJ - The listed value of the tentatively identified compound is an approximate concentration.  
U - The chemical was not detected in the sample at the detection limit shown.  
UJ - The chemical was not detected in the sample at the approximate detection limit shown.  
NC - No criterion  
- - Not applicable.



TABLE 3

**POST-MITIGATION RADIUS OF INFLUENCE VACUUM READINGS  
GLOBE EQUIPMENT  
2215 EAST RIVER ROAD  
SOUTH DAYTON DUMP AND LANDFILL SITE  
MORaine, OHIO**

<b>Sub-Slab Sampling Probes</b>	<b>Units</b>	<b>Date August 21, 2013</b>
SS-24-A	<i>in. wc</i>	-- <sup>1</sup>
SS-24-B	<i>in. wc</i>	-0.00092
SS-24-C	<i>in. wc</i>	-0.00007
SS-24-D	<i>in. wc</i>	-0.00448
SS-24-E	<i>in. wc</i>	-0.0383
SS-24-F	<i>in. wc</i>	-0.0356
<b>Vacuum Monitoring Points</b>		
SS-24-G	<i>in. wc</i>	-0.00123
SS-24-H	<i>in. wc</i>	-0.00420
SS-24-I	<i>in. wc</i>	-- <sup>1</sup>
SS-24-J	<i>in. wc</i>	-0.00202
SS-24-K	<i>in. wc</i>	-0.00067
SS-24-L	<i>in. wc</i>	-- <sup>1</sup>
SS-24-M	<i>in. wc</i>	-- <sup>1</sup>
SS-24-N	<i>in. wc</i>	-0.0345
SS-24-O	<i>in. wc</i>	-- <sup>1</sup>
SS-24-P	<i>in. wc</i>	-0.00085
<b>Suction Points</b>		
Ep-1	<i>in. wc</i>	3.75
Ep-2	<i>in. wc</i>	0.75
Ep-3	<i>in. wc</i>	2.00
Ep-4	<i>in. wc</i>	4.00
Ep-5	<i>in. wc</i>	4.00
Ep-6	<i>in. wc</i>	2.25
Ep-7	<i>in. wc</i>	3.75
Ep-8	<i>in. wc</i>	3.75

## Notes:

in. wc - inches water column

--<sup>1</sup> - No measurment recorded

TABLE 4  
SUMMARY OF 30-DAY HYBRID PROFICIENCY SAMPLING ANALYTICAL RESULTS  
GLOBE EQUIPMENT  
2215 EAST RIVER ROAD  
SOUTH DAYTON DUMP AND LANDFILL SITE  
MORaine, OHIO

Sample Location:					Indoor Air A	Indoor Air B	Indoor Air C	Indoor Air D	Indoor Air F	Outdoor Air	SS-24-B	SS-24-B
Sample Address:					2215 East River Road	2215 East River Road	2215 East River Road	2215 East River Road	2215 East River Road	2215 East River Road	2215 East River Road	2215 East River Road
Sample Date:					9/11/2013	9/11/2013	9/11/2013	9/12/2013	9/11/2013	9/11/2013	9/11/2013	9/11/2013 Duplicate
Parameter	Units	Screening Levels	Action Levels	Screening Levels	Action Levels							
	a	b	c	d								
Volatile Organic Compounds												
1,1,1-Trichloroethane	ppb	--	--	--	--	0.060 U	0.030 U	0.060 U	0.030 U	0.15 U	0.031 U	0.29 J
1,1,2,2-Tetrachloroethane	ppb	--	--	--	--	0.12 U	0.061 U	0.12 U	0.061 U	0.30 U	0.063 U	0.12 U
1,1,2-Trichloroethane	ppb	--	--	--	--	0.11 U	0.054 U	0.11 U	0.054 U	0.27 U	0.056 U	0.11 U
1,1-Dichloroethane	ppb	16	160	160	1600	0.052 U	0.026 U	0.052 U	0.026 U	0.13 U	0.027 U	0.052 U
1,1-Dichloroethene	ppb	--	--	--	--	0.068 U	0.034 U	0.068 U	0.034 U	0.17 U	0.035 U	0.068 U
1,2,4-Trichlorobenzene	ppb	--	--	--	--	0.20 U	0.098 U	0.20 U	0.098 U	0.49 U	0.10 U	0.20 U
1,2,4-Trimethylbenzene	ppb	--	--	--	--	1.1	0.063 U	0.75	0.53	0.46 J	0.33	0.13 U
1,2-Dibromoethane (Ethylene dibromide)	ppb	--	--	--	--	0.088 U	0.044 U	0.088 U	0.044 U	0.22 U	0.045 U	0.088 U
1,2-Dichlorobenzene	ppb	--	--	--	--	0.14 U	0.070 U	0.14 U	0.070 U	0.35 U	0.072 U	0.14 U
1,2-Dichloroethane	ppb	--	--	--	--	0.094 U	0.047 U	0.094 U	0.047 U	0.24 U	0.048 U	0.094 U
1,2-Dichloropropane	ppb	--	--	--	--	0.10 U	0.052 U	0.10 U	0.052 U	0.26 U	0.054 U	0.10 U
1,2-Dichlorotetrafluoroethane (CFC 114)	ppb	--	--	--	--	0.064 U	0.032 U	0.064 U	0.032 U	0.16 U	0.033 U	0.064 U
1,3,5-Trimethylbenzene	ppb	--	--	--	--	0.19 J	0.065 U	0.15 J	0.10 J	0.32 U	0.088 J	0.13 U
1,3-Butadiene	ppb	--	--	--	--	0.13 U	0.064 U	0.13 U	0.064 U	0.32 U	0.066 U	0.13 U
1,3-Dichlorobenzene	ppb	--	--	--	--	0.13 U	0.065 U	0.13 U	0.065 U	0.32 U	0.067 U	0.13 U
1,4-Dichlorobenzene	ppb	--	--	--	--	0.13 U	0.064 U	0.13 U	0.064 U	0.32 U	0.066 U	0.13 U
1,4-Dioxane	ppb	--	--	--	--	0.16 U	0.080 U	0.16 U	0.080 U	0.40 U	0.082 U	0.16 U
2,2,4-Trimethylpentane	ppb	--	--	--	--	0.20 J	0.11 J	0.14 J	0.10 J	0.20 U	0.11 J	0.078 U
2-Butanone (Methyl ethyl ketone) (MEK)	ppb	--	--	--	--	15	0.20 U	16	1.8	2.3 J	1	0.40 U
2-Chlorotoluene	ppb	--	--	--	--	0.13 U	0.063 U	0.13 U	0.063 U	0.32 U	0.065 U	0.13 U
2-Hexanone	ppb	--	--	--	--	0.16 J	0.058 U	0.14 J	0.091 J	0.29 U	0.091 J	0.12 U
2-Phenylbutane (sec-Butylbenzene)	ppb	--	--	--	--	0.13 U	0.064 U	0.13 U	0.064 U	0.32 U	0.066 U	0.13 U
4-Ethyl Toluene	ppb	--	--	--	--	0.50 J	0.066 U	0.29 J	0.26 J	0.33 U	0.23 J	0.13 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ppb	--	--	--	--	11	0.045 U	5.9	2.6	1.6 J	1.2 J	0.11 U
Acetone	ppb	--	--	--	--	100	13	81	37	52	12	4.3 J
Allyl chloride	ppb	--	--	--	--	0.096 U	0.048 U	0.096 U	0.048 U	0.24 U	0.049 U	0.096 U
Benzene	ppb	2	20	20	200	0.45	0.056 U	0.33 J	0.42	0.51 J	0.38	0.11 U
Benzyl chloride	ppb	--	--	--	--	0.16 U	0.078 U	0.16 U	0.078 U	0.39 U	0.080 U	0.16 U
Bromodichloromethane	ppb	--	--	--	--	0.088 U	0.044 U	0.088 U	0.044 U	0.22 U	0.045 U	0.088 U
Bromoform	ppb	--	--	--	--	0.096 U	0.048 U	0.096 U	0.048 U	0.24 U	0.049 U	0.096 U
Bromomethane (Methyl bromide)	ppb	--	--	--	--	0.064 U	0.032 U	0.064 U	0.032 U	0.16 U	0.033 U	0.064 U
Butane	ppb	--	--	--	--	6.4	5.2	7.5	9.2	5.9	2.2	0.31 J
Carbon disulfide	ppb	--	--	--	--	0.12 J	0.064 J	0.11 J	0.068 J	0.16 U	0.088 J	0.15 J
Carbon tetrachloride	ppb	--	--	--	--	0.076 U	0.038 U	0.076 U	0.037 J	0.19 U	0.051 J	0.076 U
Chlorobenzene	ppb	--	--	--	--	0.098 U	0.049 U	0.098 U	0.049 U	0.24 U	0.050 U	0.098 U
Chlorodifluoromethane	ppb	--	--	--	--	3.6	4	4.4	14	1.4	0.31	4.9
Chloroethane	ppb	--	--	--	--	0.070 U	0.036 J	0.070 U	0.035 U	0.18 U	0.036 U	0.070 U
Chloroform (Trichloromethane)	ppb	80	800	800	8000	0.076 U	0.038 U	0.076 U	0.078 J	0.19 U	0.039 U	0.076 U
Chloromethane (Methyl chloride)	ppb	--	--	--	--	0.57 J	0.68	0.56 J	0.8	0.80 U	0.7	0.32 U
cis-1,2-Dichloroethene	ppb	37	370	370	3700	0.12 U	0.060 U	0.12 U	0.060 U	0.30 U	0.062 U	0.12 U
cis-1,3-Dichloropropene	ppb	--	--	--	--	0.15 U	0.074 U	0.15 U	0.074 U	0.37 U	0.076 U	0.15 U
Cyclohexane	ppb	--	--	--	--	35	1.1	24	1.9	5.7	0.44 J	0.080 U
Cymene (p-Isopropyltoluene)	ppb	--	--	--	--	0.26 J	0.057 U	0.16 J	0.11 J	0.28 U	0.059 U	0.11 U
Dibromodichloromethane	ppb	--	--	--	--	0.084 U	0.042 U	0.084 U	0.042 U	0.21 U	0.043 U	0.084 U
Dichlorodifluoromethane (CFC-12)	ppb	--	--	--	--	0.44	0.41	0.46	0.47	0.56 J	0.47	0.48
Ethylbenzene	ppb	250	2500	2500	25000	3.7	0.068 U	2.9	0.99	0.82 J	0.24	0.14 U
Hexachlorobutadiene	ppb	--	--	--	--	0.16 U	0.078 U	0.16 U	0.078 U	0.39 U	0.080 U	0.16 U
Hexane	ppb	--	--	--	--	1.7	0.032 U	1.5	0.45 J	1.2 J	1.7	0.18 J
Isopropyl alcohol	ppb	--	--	--	--	32	1.0 J	43	33	22	0.60 J	0.83 J

TABLE 4  
SUMMARY OF 30-DAY HYBRID PROFICIENCY SAMPLING ANALYTICAL RESULTS  
GLOBE EQUIPMENT  
2215 EAST RIVER ROAD  
SOUTH DAYTON DUMP AND LANDFILL SITE  
MORAIN, OHIO

Sample Location:	Indoor Air A				Indoor Air B	Indoor Air C	Indoor Air D	Indoor Air F	Outdoor Air	SS-24-B	SS-24-B	
Sample Address:	2215 East River Road				2215 East River Road	2215 East River Road	2215 East River Road	2215 East River Road	2215 East River Road	2215 East River Road	2215 East River Road	
Sample Date:	9/11/2013				9/11/2013	9/11/2013	9/11/2013	9/11/2013	9/11/2013	9/11/2013	9/11/2013 Duplicate	
Parameter	Units	Screening Levels	Action Levels	Screening Levels	Action Levels							
	a	b	c	d								
Volatile Organic Compounds Cont'd												
Isopropyl benzene	ppb	--	--	--	--	0.21 J	0.060 U	0.20 J	0.091 J	0.30 U	0.062 U	0.12 U
m&p-Xylenes	ppb	200	2000	2000	20000	14	0.12 U	10	3.6	3	0.95	0.24 U
Methyl methacrylate	ppb	--	--	--	--	0.16 U	0.079 U	0.20 J	0.11 J	0.40 U	0.15 J	0.16 U
Methyl tert butyl ether (MTBE)	ppb	--	--	--	--	0.34 U	0.17 U	0.34 U	0.17 U	0.85 U	0.18 U	0.34 U
Methylene chloride	ppb	--	--	--	--	1.3	0.5	1.3	0.39 J	1.5 J	0.45 J	0.62 J
Naphthalene	ppb	2.9	29	29	290	0.21 J	0.090 U	0.35 J	0.13 J	0.45 U	0.10 J	0.18 U
N-Butylbenzene	ppb	--	--	--	--	0.11 J	0.046 U	0.092 U	0.061 J	0.23 U	0.047 U	0.092 U
N-Heptane	ppb	--	--	--	--	3.8	0.047 U	3.1	1.8	5.5	1	0.094 U
N-Propylbenzene	ppb	--	--	--	--	0.14 J	0.056 U	0.11 U	0.074 J	0.28 U	0.058 U	0.11 U
o-Xylene	ppb	200	2000	2000	20000	6.1	0.061 U	3.8	1.8	1.2	0.35	0.12 U
Styrene	ppb	--	--	--	--	2.9	0.058 U	1.7	1	0.39 J	0.060 U	0.12 U
tert-Butyl alcohol	ppb	--	--	--	--	0.62 J	0.038 U	0.62 J	0.34 J	0.36 J	0.16 J	0.50 J
tert-Butylbenzene	ppb	--	--	--	--	0.13 U	0.066 U	0.13 U	0.066 U	0.33 U	0.068 U	0.13 U
Tetrachloroethene	ppb	25	250	250	2500	0.083 J	0.040 U	0.080 U	0.049 J	0.20 U	0.041 U	0.25
Tetrahydrofuran	ppb	--	--	--	--	3.3	0.24 J	3.7	0.55 J	0.64 J	0.13 J	0.13 U
Toluene	ppb	--	--	--	--	29	0.16 J	27	6.8	14	1.5	0.29 J
trans-1,2-Dichloroethene	ppb	--	--	--	--	0.10 U	0.050 U	0.10 U	0.050 U	0.25 U	0.052 U	0.10 U
trans-1,3-Dichloropropene	ppb	--	--	--	--	0.096 U	0.048 U	0.096 U	0.048 U	0.24 U	0.049 U	0.096 U
Trichloroethene	ppb	2	20	20	200	0.072 U	0.036 U	0.072 U	0.11 J	0.18 U	0.037 U	6.5
Trichlorofluoromethane (CFC-11)	ppb	--	--	--	--	0.24 J	0.13 J	0.26 J	0.23	0.33 J	0.24	0.26 J
Trifluorotrichloroethane (Freon 113)	ppb	--	--	--	--	0.065 J	0.031 U	0.068 J	0.074 J	0.16 U	0.074 J	0.071 J
Vinyl bromide (Bromoethene)	ppb	--	--	--	--	0.070 U	0.035 U	0.070 U	0.035 U	0.18 U	0.036 U	0.070 U
Vinyl chloride	ppb	2	20	20	200	0.14 U	0.071 U	0.14 U	0.071 U	0.36 U	0.073 U	0.14 U

Notes:

ppb - parts per billion

J - The chemical was detected by the laboratory, the listed value is an approximate concentration.

U - The chemical was not detected in the sample at the detection limit shown.

-- Not applicable.

## **Appendix A**

**Copy of Access Agreement**

## SITE ACCESS AGREEMENT

This Site Access Agreement is made this 10<sup>th</sup> day of January, 2011, by, among and between Walloon Holdings, LLC (“Licensors”), in favor of the South Dayton Dump Potentially Responsible Party (“PRP”) Group.

WHEREAS, Licensors are the owners of property comprised of Lot Number 3207 in Moraine, Ohio (“the Premises”); and

WHEREAS, the South Dayton Dump PRP Group wishes to conduct certain environmental investigation work at the Premises; and

NOW, THEREFORE, the parties agree as follows:

1. Grant of Access

Licensors hereby grant to the South Dayton Dump PRP Group, their contractors, agents, consultants, designees and representatives, a temporary right and license to enter upon the Premises at all reasonable times upon prior telephone notification to conduct site inspections as well as environmental soil and groundwater sampling in connection with a Remedial Investigation and Feasibility Study pursuant to the Administrative Settlement Agreement and Order on Consent (“ASAOC”) for Remedial Investigation and Feasibility Study, CERCLA Docket Number V-W-06-C-852 under the oversight of the United States Environmental Protection Agency (“U.S. EPA”) and the State of Ohio. Licensors further grant to the U.S. EPA, the State of Ohio, and their representatives and designees, including contractors, access at all reasonable

times to the Site for the purpose of conducting any activity related to the ASAOC described above.

2. Term of License

This Site Access Agreement and all rights granted hereunder, shall terminate upon completion of the Remedial Investigation and Feasibility Study pursuant to the ASAOC described above.

3. Non-Interference with Licensors' Use

In exercising its rights under this Site Access Agreement, the South Dayton Dump PRP Group shall, at all times, conduct its activities in such a way as to not interfere with the activities or operations of Licensors at the Premises or with other authorized uses of the Premises and shall honor all reasonable requests and instructions which are made to them by Licensors or other appropriate parties.

4. Indemnity

The South Dayton Dump PRP Group covenants and agrees to save and keep harmless and indemnify Licensors, their officers and from and against any and all liabilities, losses, damages, costs, expenses, causes of action, suits, penalties, claims, demands, and judgments of every kind and nature, including without limitation, reasonable attorney's fees and expenses for any personal injury or property damage to any building, structure, fixture, parking area or landscaping resulting or arising from the South Dayton Dump PRP Group activities hereunder.

5. Threats to Human Health or the Environment

If at any time during the performance of the work hereunder, the South Dayton Dump PRP Group or its agents discover any incident or condition that creates an emergency or danger to the health or safety of persons on or adjacent to the Premises, the South Dayton Dump PRP Group shall promptly notify Licensors of such incident or condition. If Licensors discover any such condition Licensors shall notify the South Dayton Dump PRP Group.

6. Restoration

Upon conclusion of its work, the South Dayton Dump PRP Group shall restore the Premises to the conditions existing immediately prior to the conduct of such work and in accordance with all applicable requirements.

Should the South Dayton Dump PRP Group's activities upon the Premises cause damage to any utilities, the cost of repair shall be the sole responsibility of the South Dayton Dump PRP Group, and repairs shall be made immediately.

7. Compliance with Laws

The South Dayton Dump PRP Group shall comply promptly and fully with all present and future laws and regulations in connection with its work hereunder.

8. Agreement to Limit Publicity

Neither the South Dayton Dump PRP Group, nor its agents, representatives, designees or contractors, shall discuss environmental conditions or its

investigative work at the Premises with any other person, entity, media organization, etc. without the express written consent of Licensors. The lone exceptions to this publicity rule will occur when South Dayton Dump PRP Group is required by law to disclose such information or as necessary to notify governmental authorities, obtain approval of an investigative or remediation plan from the appropriate governmental authority or submit reports or other documents to governmental authorities.

9. Construction and Intention

This Site Access Agreement is intended to be and shall be construed as a grant of temporary right of access and not an interest in the Premises.

10. Relationship of Parties

Nothing contained in this Site Access Agreement shall be deemed or construed by the parties, or any third party, as creating the relationship of principal and agent or of partnership or of joint venture between Licensors and South Dayton Dump PRP Group, it being understood and agreed that no provision contained in this Site Access Agreement, nor any acts of the parties shall be deemed to create any relationship between the parties hereto other than the relationship of Licensors to Licensee.

11. Captions

The captions in this Site Access Agreement are for convenience only and shall not be deemed to be a part hereof.



12. Governing Law

This Site Access Agreement shall be governed and construed in accordance with the laws of the State of Ohio. Any action to enforce the terms of this Site Access Agreement shall be brought in an appropriate court in Montgomery County, Ohio.

13. Amendment

This Site Access Agreement may not be modified or amended except by a written agreement duly executed by the parties hereto or by their respective successors or assigns, as the case may be. Licensors acknowledge that the U.S. EPA, Ohio EPA or their designees may require Licensee to undertake additional work not specified herein. In that event, Licensee shall confer with Licensors and amend, with Licensors' approval, this Site Access Agreement. Such approval shall not be unreasonably withheld.

14. Entire Agreement

This Site Access Agreement fully sets forth all agreements and understandings of the parties to this Site Access Agreement with respect to the subject matter hereof.

IN WITNESS WHEREOF, the parties have executed this Site Access Agreement on the day and year first above written.

LICENSORS

  
\_\_\_\_\_

Date: 1-12-11

## LICENSORS CONTACT INFORMATION

Name: Hilton Garner  
 Title: member  
 Address: 2153 Dryden Rd  
Denton OH 45439  
 Office Phone: 937-299-5493 x203  
 Mobile Phone: \_\_\_\_\_  
 Facsimile: 937-299-8623  
 E-mail: hgarner@globalisllc.com

## LICENSEE

South Dayton Dump PRP Group

By: [Signature]  
 Title: SDD PRP Group Representative  
 Date: 11/10/2011

## LICENSEE CONTACT INFORMATION

Ken Brown, CHMM  
 Manager of Environmental  
 and Chemical Compliance  
 Illinois Tool Works Inc.  
 3600 West Lake Avenue  
 Glenview, Illinois 60026  
 Office Phone: 847-657-4843  
 Mobile Phone: 847-224-9003  
 Facsimile: 847-657-7892  
 E-mail: kbrown@itw.com

Steve Quigley, P.E.  
 Principal  
 Conestoga-Rovers & Associates  
 651 Colby Drive  
 Waterloo, Ontario Canada N2V 1C2  
 Office Phone: 519-884-0510  
 Mobile Phone: 519-498-7997  
 Facsimile: 519-884-0525  
 E-mail: squigley@craworld.com

## **Appendix B**

### **Mitigation Acceptance Letter**



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
CINCINNATI, OHIO 45268

May 31, 2013

Hilton Garner  
Walloon Holdings LLC  
2215 East River Road (Building 24)  
Moraine, Ohio 45439

Hilton Garner  
Globe Equipment  
2215 East River Road  
Moraine, Ohio 45439

Re: South Dayton Dump & Landfill Site  
Vapor Abatement System Acceptance Form

As part of a vapor intrusion investigation in 2012 at the South Dayton Dump & Landfill (SDDL) Superfund Site located in Moraine, Ohio, Conestoga-Rovers & Associates (CRA), in working with United States Environmental Protection Agency (U.S. EPA), completed sub-slab and indoor air sampling at your property. The purpose of this letter is to inform you that trichloroethylene (TCE) was observed to be present in the sub-slab at a concentration as high as 48 parts per billion by volume (ppbv), which is greater than the Ohio Department of Health (ODH) sub-slab TCE screening level of 20 ppbv. In addition, TCE was observed in the indoor air at a concentration as high as 0.37 ppbv, which is less than the Agency for Toxic Substances and Disease Registry (ATSDR) and ODH indoor air TCE screening level of 2 ppbv. Vapor intrusion has the potential to occur at your property and you are eligible to receive a vapor abatement system to prevent vapor intrusion from occurring at your property.

While it is not known whether the identified vapor intrusion or potential vapor intrusion is tied to the historical activities at the SDDL Site, several companies believed to have disposed of waste at the SDDL Site and U.S. EPA are proceeding proactively with respect to the data and the responsive measures detailed in this letter.

As part of the U.S. EPA time-critical removal action at the SDDL Site, the potentially responsible parties (PRPs) at the SDDL Site propose to install a vapor abatement system at properties where vapor intrusion is occurring or has the potential to occur. If the system is accepted by the property owner, the PRPs will purchase the vapor abatement system and pay for the basic costs of installation. The PRPs' contractor, CRA, will design the system to vent the chemical vapors to concentrations less than the recommended indoor air screening levels established by ODH. The vapor abatement system includes PVC piping and an inline fan(s) to vent vapors from below the property foundation to above the roofline.

Following the installation of the vapor abatement system, the following will be performed or provided:

- 1) **Performance Air Sampling** – To ensure that the indoor air quality is below the ODH screening levels, CRA, on behalf of the PRPs, will conduct indoor air sampling at 30, 180 and 365 days after the system installation;

- 2) **Information Binder** – CRA, on behalf of the PRPs, will provide the property owner and the tenant (if necessary) a vapor abatement system information binder that will include a description of the vapor abatement system, photographs, historical sampling data, contact and fan warranty information;
- 3) **Annual Inspection** – Following successful performance sampling of the vapor abatement system, annual inspections will be conducted by CRA to ensure that the system is working properly.
- 4) **Electricity Stipend** – The PRPs will provide an electricity stipend (to the individual or company that pays for the electricity at the property) to off-set the cost of operating the system. The stipend will be a one-time payment, calculated based on assumed 5-year operation of the system, in the amount of \$7,120. The need for an additional stipend will be evaluated at the end of the 5-year period based on the need for continued operation of the system.

Please sign below to indicate that you accept the described vapor abatement system or that you decline the described vapor abatement system for your property:

I agree to and **accept** the described system and the terms set forth above:

<u>Kevin Wagoner</u>	<u>Kevin Wagoner</u>	<u>6/18/13</u>
Name	Signature	Date

I have reviewed the above information and **decline** the described system:

_____	_____	_____
Name	Signature	Date

## **Appendix C**

### **Site Photographs**



Photo 1: Vacuum blower and exhaust stack for system EP-1



Photo 2: Suction point installed in system EP-1



Photo 3: Vacuum blower and exhaust stack for system EP-2



Photo 4: Suction point installed in system EP-2 with stemline

## SITE PHOTOGRAPHS





Photo 5: Suction point installed in system EP-2 with stemline



Photo 6: EP-2: secondary stemline with valve



Photo 7: Vacuum blower and exhaust stack for system EP-3



Photo 8: Suction point installed for system EP-3

## SITE PHOTOGRAPHS





Photo 9: Suction point installed for system EP-4



Photo 10: Interior proximity of system EP-4 suction point



Photo 11: Vacuum blower and exhaust stack for system EP-5



Photo 12: Suction point installed for system EP-5

## SITE PHOTOGRAPHS



Photo 13: Vacuum blower and exhaust stack for system EP-6



Photo 14: Suction point installed for system EP-6



Photo 15: Vacuum blower and exhaust stack for system EP-7

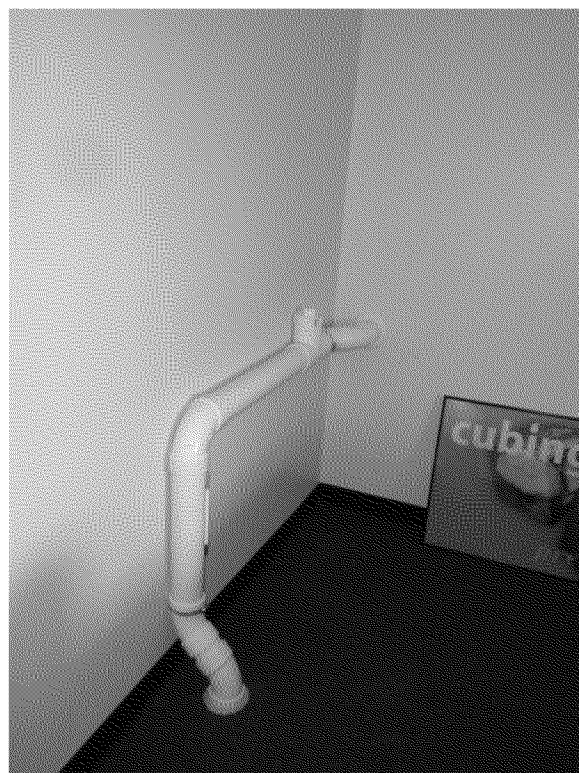


Photo 16: Suction point installed for system EP-7

## SITE PHOTOGRAPHS



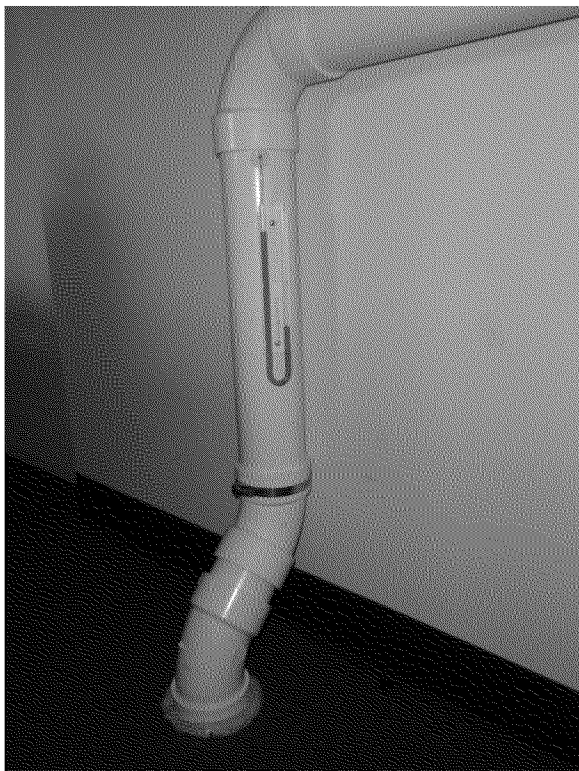


Photo 17: Suction point for system EP-7



Photo 18: Suction point for system EP-8

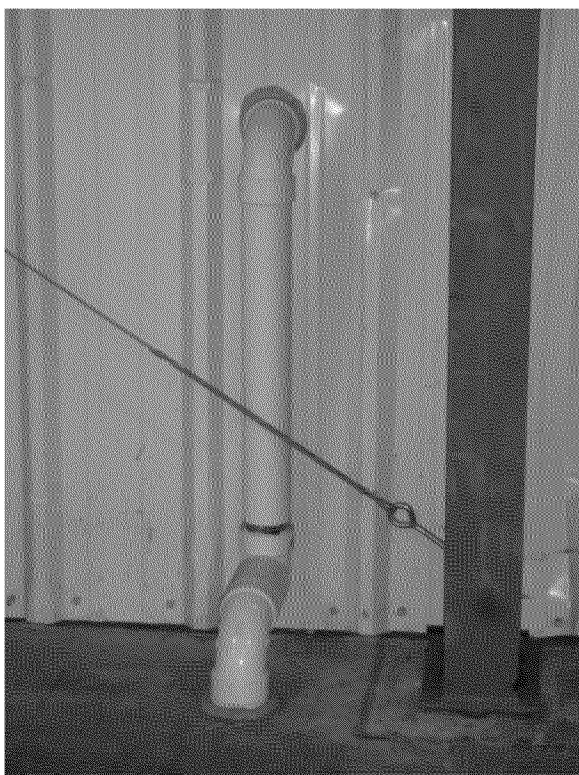


Photo 19: EP-8: secondary stemline with valve



Photo 20: EP-8: secondary stemline  
with valve

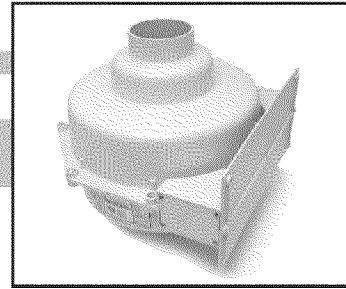
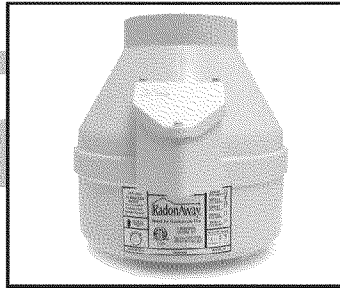
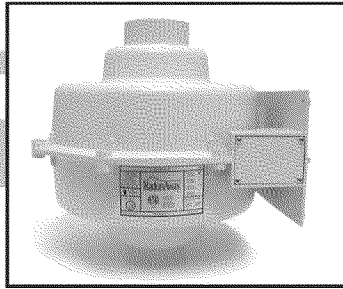
## SITE PHOTOGRAPHS

## **Appendix D**

### **Equipment Manuals and Final Inspection Report**



The World's Leading  
Radon Fan Manufacturer



## GP/XP/XR Series Installation Instructions

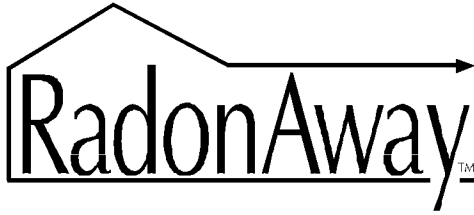
### Please Read And Save These Instructions

**DO NOT CONNECT POWER SUPPLY UNTIL FAN IS COMPLETELY INSTALLED. MAKE SURE ELECTRICAL SERVICE TO FAN IS LOCKED IN "OFF" POSITION. DISCONNECT POWER BEFORE SERVICING FAN.**

1. **WARNING!** Do not use fan in hazardous environments where fan electrical system could provide ignition to combustibles or flammable materials.
2. **WARNING!** Do not use fan to pump explosive or corrosive gases.
3. **WARNING!** Check voltage at the fan to insure it corresponds with nameplate.
4. **WARNING!** Normal operation of this device may affect the combustion airflow needed for safe operation of fuel burning equipment. Check for possible backdraft conditions on all combustion devices after installation.
5. **NOTICE!** There are no user serviceable parts located inside the fan unit.  
**Do NOT attempt to open.** Return unit to the factory for service.
6. All wiring must be performed in accordance with the National Fire Protection Association's (NFPA) "National Electrical Code, Standard #70" - current edition for all commercial and industrial work, and state and local building codes. All wiring must be performed by a qualified and licensed electrician.
7. **WARNING!** Do not leave fan unit installed on system piping without electrical power for more than 48 hours. Fan failure could result from this non-operational storage.
8. **WARNING - TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS, OBSERVE THE FOLLOWING:**
  - a) Use this unit only in the manner intended by the manufacturer. If you have questions, contact the manufacturer.
  - b) Before servicing or cleaning unit, switch power off at service panel and lock the service disconnecting means to prevent power from being switched on accidentally. When the service disconnecting means cannot be locked, securely fasten a prominent warning device, such as a tag, to the service panel

**RadonAway**

3 Saber Way | Ward Hill, MA 01835  
www.radonaway.com



## INSTALLATION INSTRUCTION IN014 Rev I

### **XP/XR Series**

XP101 p/n 23008-1  
 XP151 p/n 23010-1  
 XP201 p/n 23011-1  
 XR261 p/n 23019-1

### **GP Series**

GP201 p/n 23007-1  
 GP301 p/n 23006-1  
 GP401 p/n 23009-1  
 GP501 p/n 23005-1

## **1.0 SYSTEM DESIGN CONSIDERATIONS**

### **1.1 INTRODUCTION**

The GP/XP/XR Series Radon Fans are intended for use by trained, professional Radon mitigators. The purpose of this instruction is to provide additional guidance for the most effective use of a fan. This instruction should be considered as a supplement to EPA standard practices, state and local building codes and state regulations. In the event of a conflict, those codes, practices and regulations take precedence over this instruction.

### **1.2 ENVIRONMENTALS**

The GP/XP/XR Series Fans are designed to perform year-round in all but the harshest climates without additional concern for temperature or weather. For installations in an area of severe cold weather, please contact RadonAway for assistance. When not in operation, the fan should be stored in an area where the temperature is never less than 32 degrees F. or more than 100 degrees F.

### **1.3 ACOUSTICS**

The GP/XP/XR Series Fan, when installed properly, operates with little or no noticeable noise to the building occupants. The velocity of the outgoing air should be considered in the overall system design. In some cases the "rushing" sound of the outlet air may be disturbing. In these instances, the use of a RadonAway Exhaust Muffler is recommended.

### **1.4 GROUND WATER**

In the event that a temporary high water table results in water at or above slab level, water may be drawn into the riser pipes thus blocking air flow to the GP/XP/XR Series Fan. The lack of cooling air may result in the fan cycling on and off as the internal temperature rises above the thermal cutoff and falls upon shutoff. Should this condition arise, it is recommended that the fan be turned off until the water recedes allowing for return to normal operation.

### **1.5 SLAB COVERAGE**

The GP/XP/XR Series Fan can provide coverage up to 2000+ sq. ft. per slab penetration. This will primarily depend on the sub-slab material in any particular installation. In general, the tighter the material, the smaller the area covered per penetration. Appropriate selection of the GP/XP/XR Series Fan best suited for the sub-slab material can improve the slab coverage. The GP & XP Series have a wide range of models to choose from to cover a wide range of subslab material. The higher static suction fans are generally used for tighter subslab materials. The XR Series is specifically designed for high flow applications such as stone/gravel and drain tile. Additional suction points can be added as required. It is recommended that a small pit (5 to 10 gallons in size) be created below the slab at each suction hole.

## 1.6 CONDENSATION & DRAINAGE

Condensation is formed in the piping of a mitigation system when the air in the piping is chilled below its dew point. This can occur at points where the system piping goes through unheated space such as an attic, garage or outside. The system design must provide a means for water to drain back to a slab hole to remove the condensation. The GP/XP/XR Series Fan **MUST** be mounted vertically plumb and level, with the outlet pointing up for proper drainage through the fan. Avoid mounting the fan in any orientation that will allow water to accumulate inside the fan housing. The GP/XP/XR Series Fans are **NOT** suitable for underground burial.

For GP/XP/XR Series Fan piping, the following table provides the minimum recommended pipe diameter and pitch under several system conditions.

Pipe Dia.	Minimum Rise per Foot of Run*		
	@25 CFM	@50 CFM	@100 CFM
4"	1/8"	1/4"	3/8"
3"	1/4"	3/8"	1 1/2"

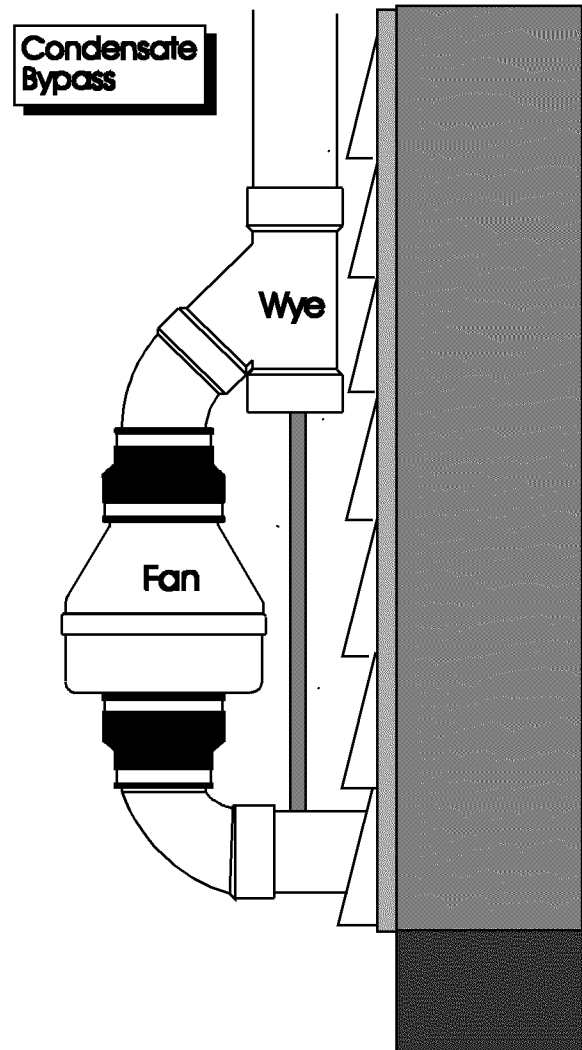
\*Typical GP/XP/XR Series Fan operational flow rate is 25 - 90 CFM.  
(For more precision, determine flow rate by using the chart in the addendum.)

Under some circumstances in an outdoor installation a condensate bypass should be installed in the outlet ducting as shown. This may be particularly true in cold climate installations which require long lengths of outlet ducting or where the outlet ducting is likely to produce large amounts of condensation because of high soil moisture or outlet duct material. Schedule 20 piping and other thin-walled plastic ducting and Aluminum downspout will normally produce much more condensation than Schedule 40 piping.

The bypass is constructed with a 45 degree Wye fitting at the bottom of the outlet stack. The bottom of the Wye is capped and fitted with a tube that connects to the inlet piping or other drain. The condensation produced in the outlet stack is collected in the Wye fitting and drained through the bypass tube. The bypass tubing may be insulated to prevent freezing.

## 1.7 "SYSTEM ON" INDICATOR

A properly designed system should incorporate a "System On" Indicator for affirmation of system operation. A manometer, such as a U-Tube, or a vacuum alarm is recommended for this purpose.



## 1.8 ELECTRICAL WIRING

The GP/XP/XR Series Fans operate on standard 120V 60 Hz. AC. All wiring must be performed in accordance with the National Fire Protection Association's (NFPA) National Electrical Code, Standard #70"-current edition for all commercial and industrial work, and state and local building codes. All wiring must be performed by a qualified and licensed electrician. Outdoor installations require the use of a U.L. listed watertight conduit. Ensure that all exterior electrical boxes are outdoor rated and properly sealed to prevent water penetration into the box. A means, such as a weep hole, is recommended to drain the box.

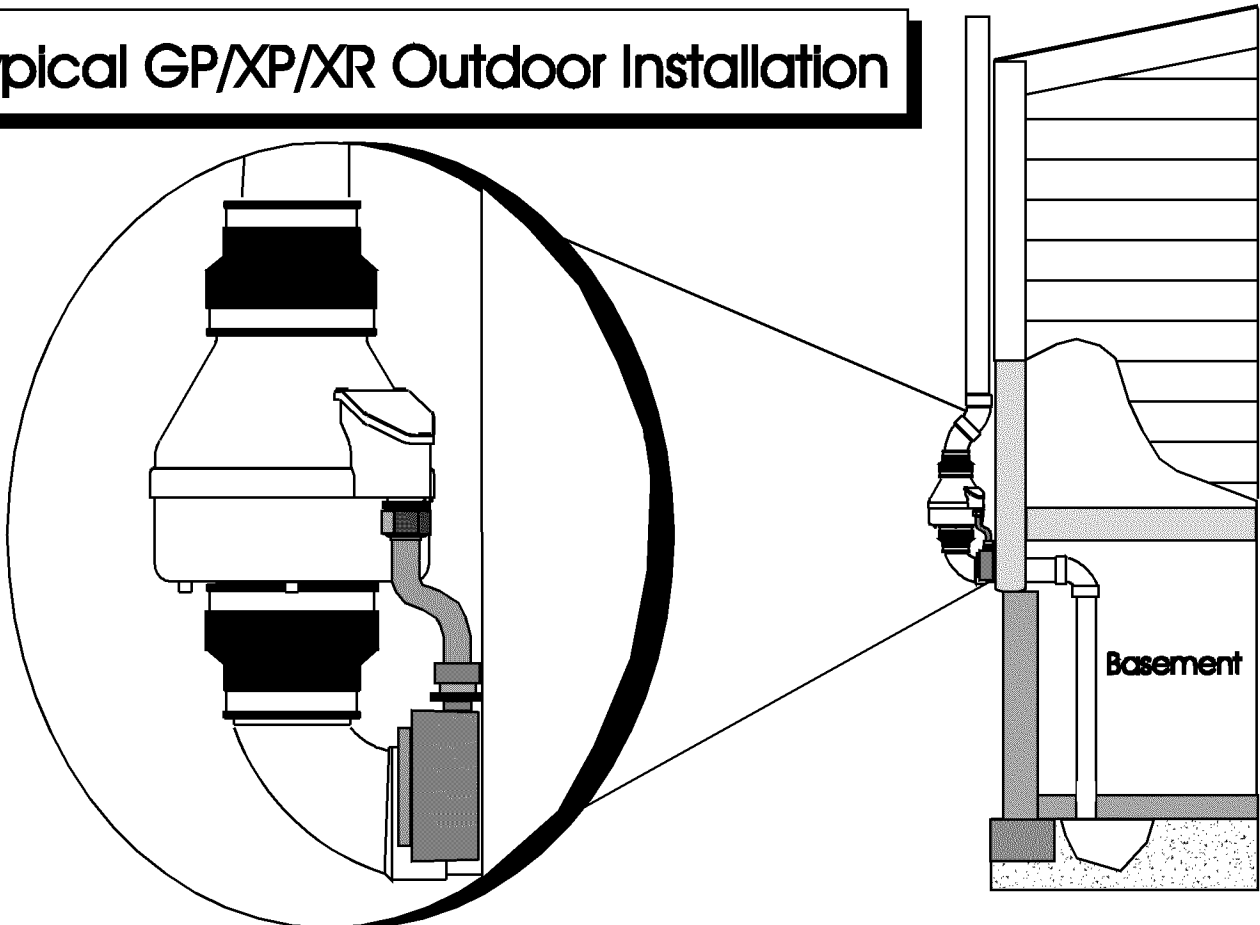
## 1.9 SPEED CONTROLS

The GP/XP/XR Series Fans are rated for use with electronic speed controls, however, they are generally not recommended. If used, the speed control recommended is Pass & Seymour Solid State Speed Control Cat. No. 94601-I.

## 2.0 INSTALLATION

The GP/XP/XR Series Fan can be mounted indoors or outdoors. (It is suggested that EPA recommendations be followed in choosing the fan location.) The GP/XP/XR Series Fan may be mounted directly on the system piping or fastened to a supporting structure by means of optional mounting bracket.

### Typical GP/XP/XR Outdoor Installation





## 2.1 MOUNTING

Mount the GP/XP/XR Series Fan vertically with outlet up. Insure the unit is plumb and level. When mounting directly on the system piping assure that the fan does not contact any building surface to avoid vibration noise.

## 2.2 MOUNTING BRACKET (optional)

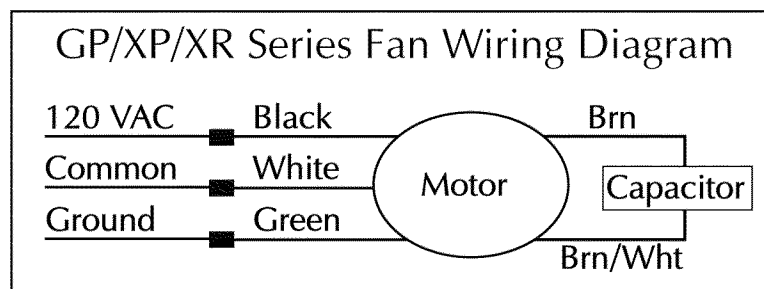
The GP/XP/XR Series Fan may be optionally secured with the integral mounting bracket on the GP Series fan or with RadonAway P/N 25007-2 mounting bracket for an XP/XR Series Fan. Foam or rubber grommets may also be used between the bracket and mounting surface for vibration isolation.

## 2.3 SYSTEM PIPING

Complete piping run, using flexible couplings as means of disconnect for servicing the unit and vibration isolation.

## 2.4 ELECTRICAL CONNECTION

Connect wiring with wire nuts provided, observing proper connections (See Section 1.8):

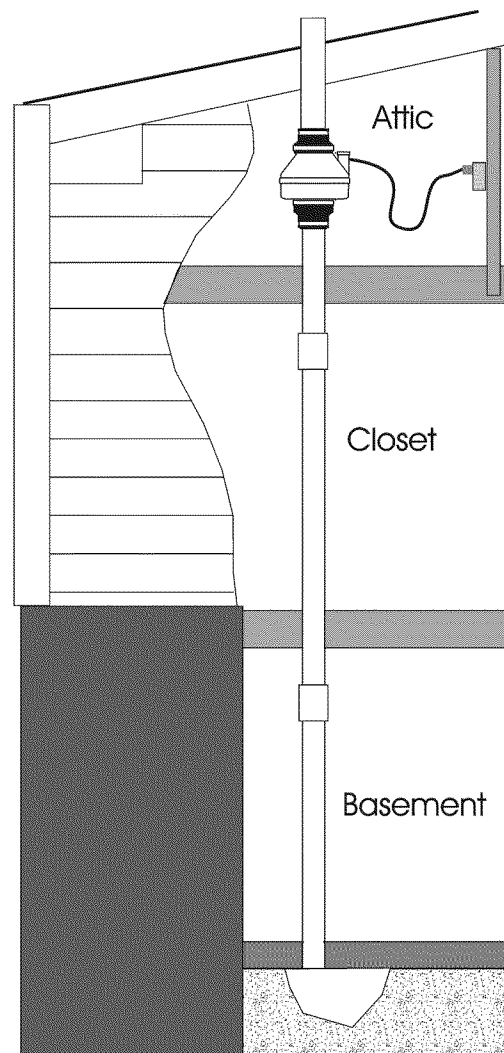


## 2.5 VENT MUFFLER (optional)

Install the muffler assembly in the selected location in the outlet ducting. Solvent weld all connections. The muffler is normally installed at the end of the vent pipe.

## 2.6 OPERATION CHECKS

- \_\_\_\_\_ all connections are tight and **leak-free**.
- \_\_\_\_\_ **Verify**
- \_\_\_\_\_ **Insure** the GP/XP/XR Series Fan and all ducting is secure and vibration-free.
- \_\_\_\_\_ **Verify** system vacuum pressure with manometer. **Insure** vacuum pressure is less than maximum recommended operating pressure  
*(Based on sea-level operation, at higher altitudes reduce by about 4% per 1000 Feet.)*  
*(Further reduce Maximum Operating Pressure by 10% for High Temperature environments)*  
*See Product Specifications. If this is exceeded, increase the number of suction points.*
- \_\_\_\_\_ **Verify Radon levels by testing to EPA protocol.**



## XP/XR SERIES PRODUCT SPECIFICATIONS

The following chart shows fan performance for the XP & XR Series Fan:

	0"	.25"	Typical CFM Vs Static Suction "WC						
			.5"	.75"	1.0"	1.25"	1.5"	1.75"	2.0"
XP101	125	118	90	56	5	-	-	-	-
XP151	180	162	140	117	78	46	10	-	-
XP201	150	130	110	93	74	57	38	20	-
XR261	250	215	185	150	115	80	50	20	-

Maximum Recommended Operating Pressure*	
XP101	0.9" W.C. (Sea Level Operation)**
XP151	1.3" W.C. (Sea Level Operation)**
XP201	1.7" W.C. (Sea Level Operation)**
XR261	1.6" W.C. (Sea Level Operation)**

*\*Reduce by 10% for High Temperature Operation*

*\*\*Reduce by 4% per 1000 feet of altitude*

Power Consumption @ 120 VAC	
XP101	40 - 49 watts
XP151	45 - 60 watts
XP201	45 - 66 watts
XR261	65 - 105 watts

**XP Series Inlet/Outlet:** 4.5" OD (4.0" PVC Sched 40 size compatible)

**XR Series Inlet/Outlet:** 5.875" OD

**Mounting:** Mount on the duct pipe or with optional mounting bracket.

**Recommended ducting:** 3" or 4" Schedule 20/40 PVC Pipe

**Storage temperature range:** 32 - 100 degrees F.

**Normal operating temperature range:** -20 - 120 degrees F.

**Maximum inlet air temperature:** 80 degrees F.

**Size:** 9.5H" x 8.5" Dia.

**Weight:** 6 lbs. (XR261 - 7 lbs)

**Continuous Duty**

**Thermally Protected**

**Class B Insulation**

**3000 RPM**

**Rated for Indoor or Outdoor Use**



## GP SERIES PRODUCT SPECIFICATIONS

The following chart shows fan performance for the GP Series Fan:

	Typical CFM Vs Static Suction "WC						
	1.0"	1.5"	2.0"	2.5"	3.0"	3.5"	4.0"
GP501	95	87	80	70	57	30	5
GP401	93	82	60	38	12	-	-
GP301	92	77	45	10	-	-	-
GP201	82	58	5	-	-	-	-

Maximum Recommended Operating Pressure*		
GP501	3.8" W.C.	(Sea Level Operation)**
GP401	3.0" W.C.	(Sea Level Operation)**
GP301	2.4" W.C.	(Sea Level Operation)**
GP201	1.8" W.C.	(Sea Level Operation)**

*\*Reduce by 10% for High Temperature Operation*

*\*\*Reduce by 4% per 1000 feet of altitude*

Power Consumption @ 120 VAC	
GP501	70 - 140 watts
GP401	60 - 110 watts
GP301	55 - 90 watts
GP201	40 - 60 watts

**Inlet/Outlet:** 3.5" OD (3.0" PVC Sched 40 size compatible)

**Mounting:** Fan may be mounted on the duct pipe or with integral flanges.

**Weight:** 12 lbs.

**Size:** 13H" x 12.5" x 12.5"

**Recommended ducting:** 3" or 4" Schedule 20 / 40 PVC Pipe

**Storage temperature range:** 32 - 100 degrees F.

**Normal operating temperature range:** -20 - 120 degrees F.

**Maximum inlet air temperature:** 80 degrees F.

**Continuous Duty**

**Class B Insulation**

**3000 RPM**

**Thermally Protected**

**Rated for Indoor or Outdoor Use**

**LISTED**  
Electric Fan



77728

Tested to  
**UL**  
Std. 507

## IMPORTANT INSTRUCTIONS TO INSTALLER

Inspect the GPx01 / XP / XR Series Fan for shipping damage within 15 days of receipt. Notify RadonAway of any damages immediately. Radonaway is not responsible for damages incurred during shipping. However, for your benefit, Radonaway does insure shipments.

There are no user serviceable parts inside the fan. **Do not attempt to open.** Return unit to factory for service.

**Install the GPx01/XP/XR Series Fan in accordance with all EPA standard practices, and state and local building codes and state regulations.**

### WARRANTY

Subject to any applicable consumer protection legislation, RadonAway warrants that the GPx01/XP/XR Series Fan (the "Fan") will be free from defects in materials and workmanship for a period of 90 days from the date of purchase (the "Warranty Term").

RadonAway will replace any Fan which fails due to defects in materials or workmanship. The Fan must be returned (at Owner's cost) to the RadonAway factory. Any Fan returned to the factory will be discarded unless the Owner provides specific instructions along with the Fan when it is returned regardless of whether or not the Fan is actually replaced under this warranty. Proof of purchase must be supplied upon request for service under this Warranty.

This Warranty is contingent on installation of the Fan in accordance with the instructions provided. This Warranty does not apply where any repairs or alterations have been made or attempted by others, or if the unit has been abused or misused. Warranty does not cover damage in shipment unless the damage is due to the negligence of RadonAway.

#### 5 YEAR EXTENDED WARRANTY WITH PROFESSIONAL INSTALLATION

RadonAway will extend the Warranty Term of the fan to 5 years from date of manufacture if the Fan is installed in a professionally designed and professionally installed radon system or installed as a replacement fan in a professionally designed and professionally installed radon system. Proof of purchase and/or proof of professional installation may be required for service under this warranty. Outside the Continental United States and Canada the extended Warranty Term is limited to one (1) year from the date of manufacture.

RadonAway is not responsible for installation, removal or delivery costs associated with this Warranty.

**EXCEPT AS STATED ABOVE, THE GPx01/XP/XR SERIES FANS ARE PROVIDED WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.**

**IN NO EVENT SHALL RADONAWAY BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES ARISING OUT OF, OR RELATING TO, THE FAN OR THE PERFORMANCE THEREOF. RADONAWAY'S AGGREGATE LIABILITY HEREUNDER SHALL NOT IN ANY EVENT EXCEED THE AMOUNT OF THE PURCHASE PRICE OF SAID PRODUCT. THE SOLE AND EXCLUSIVE REMEDY UNDER THIS WARRANTY SHALL BE THE REPAIR OR REPLACEMENT OF THE PRODUCT, TO THE EXTENT THE SAME DOES NOT MEET WITH RADONAWAY'S WARRANTY AS PROVIDED ABOVE.**

For service under this Warranty, contact RadonAway for a Return Material Authorization (RMA) number and shipping information. No returns can be accepted without an RMA. If factory return is required, the customer assumes all shipping cost to and from factory.

RadonAway  
3 Saber Way  
Ward Hill, MA 01835  
TEL. (978) 521-3703  
FAX (978) 521-3964

**Record the following information for your records:**

Serial No. \_\_\_\_\_  
Purchase Date \_\_\_\_\_



National  
Inspection  
Corporation

# INSPECTION REPORT

QUESTIONS PLEASE CALL  
plans@natinspect.com FAX 937-433-0949

937-433-4642  
888-433-4642

JURISDICTION: Moraine DATE 09-29-13

ADDRESS: 219 River Rd. East

Y Approved

N Not Approved

TEMP POLE		ROUGH ELECT		FIRE ALARM	
FOOTER		ROUGH HVAC		FIRE SUPPRESSION	
FOUNDATION		ROUGH FRAMING		FINAL ELECT	
BACK FILL		INSULATION		FINAL HVAC	
CRAWL SPACE		GAS TEST		FINAL BUILDING	
SLAB		SERVICE RELEASE			
SPRINKLER SYSTEM: HYDRO				SPRINKLER FINAL	

JOB NOTES

Vapor Intrusion by

9. Extractions points

Final approved

TIME Pm

INSPECTOR John Humphrey

## **Appendix E**

### **Operation Maintenance and Monitoring (OM&M) Checklist**

Inspection Date

Inspector's Name

Inspector's Affiliation

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**PART 1 - ROUTINE QUARTERLY INSPECTIONS****General System Operation****SSDS Exterior Fan Operation***(circle the appropriate observed condition)*

EP-1	Operating	Not Operating
EP-2	Operating	Not Operating
EP-3	Operating	Not Operating
EP-4	Operating	Not Operating
EP-5	Operating	Not Operating
EP-6	Operating	Not Operating
EP-7	Operating	Not Operating
EP-8	Operating	Not Operating
Discharge Vent Piping	Intact	Damaged
Exterior Caulking	Intact	Damaged

**SSDS Interior System Components***(circle the observed condition for each system component)*

Discharge Sampling Ports - General	Intact	Damaged
Audible Vacuum Leaks Near / From Extraction Points	Yes	No
Water Present / Water Damage Observed Near Extraction Points	Yes	No
Electrical System Components	Intact	Damaged
Observable Caulking	Intact	Damaged
Inspection of Vacuum Gauges	Intact	Damaged
Floor Conditions near Extraction Points (i.e. Cracking, etc.)	Intact	Damaged
Labeling of SSDS System and Electrical Components	Intact	Damaged

<b>SSDS System Monitoring and Sample Point Inspection</b> <i>(record vacuum measurements and note whether its operating within acceptable range)</i>			
Component Identification	Vacuum Measurements	Vacuum Outside of Range*	
EP-1		Yes	No
EP-2		Yes	No
EP-3		Yes	No
EP-4		Yes	No
EP-5		Yes	No
EP-6		Yes	No
EP-7		Yes	No
EP-8		Yes	No

\* Note: The acceptable vacuum range for each EP Fan is 0.5 to 4 inches of water. If vacuum is outside this range, call for service.



Please include any comments or observations here. At a minimum, if you answered 'damaged' or 'not operating' to any of the checklist items above, please provide further information.

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Have any modifications or upgrades been made to the heating, ventilation, or air conditioning (HVAC) system since the last inspection?	Yes	No
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If yes, please explain the changes made to the HVAC system.

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Have any changes or upgrades been made to the building or has any new construction occurred since the last inspection?	Yes	No
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If so, please explain the changes made to the building system.

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**Note:** Stop here if this is a quarterly inspection. If completing an Annual Inspection, please complete page 3 of 3

PART 2 - ANNUAL INSPECTION			
SSDS System Monitoring and Sample Point Inspection			
Sub-Slab / Monitoring Point Identification	Vacuum Measurement (inches of water)	Damaged, Leaking, or Vacuum Outside of Range*	
SS-24-A		Yes	No
SS-24-B		Yes	No
SS-24-C		Yes	No
SS-24-D		Yes	No
SS-24-E		Yes	No
SS-24-F		Yes	No
SS-24-G		Yes	No
SS-24-H		Yes	No
SS-24-I		Yes	No
SS-24-J		Yes	No
SS-24-K		Yes	No
SS-24-L		Yes	No
SS-24-M		Yes	No
SS-24-N		Yes	No
SS-24-O		Yes	No

\*Note: Vacuum should exceed 0.004 inches water column at each location. The optimal range is 0.0161 to 1.2 inches of water column.

If vacuum is below 0.001 inches water column, call for service.

Please include any comments or observations here. If you answer 'yes' to any of the checklist items above, please provide further explanation.

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